

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	McLEAN	31	1
F.A.P. PROJ.		ILLINOIS PROJECT		

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY**

**F.A.P. 693 (IL. 9)  
SECTION 120B  
PROJECT ACBRF-0693(062)  
McLEAN COUNTY**

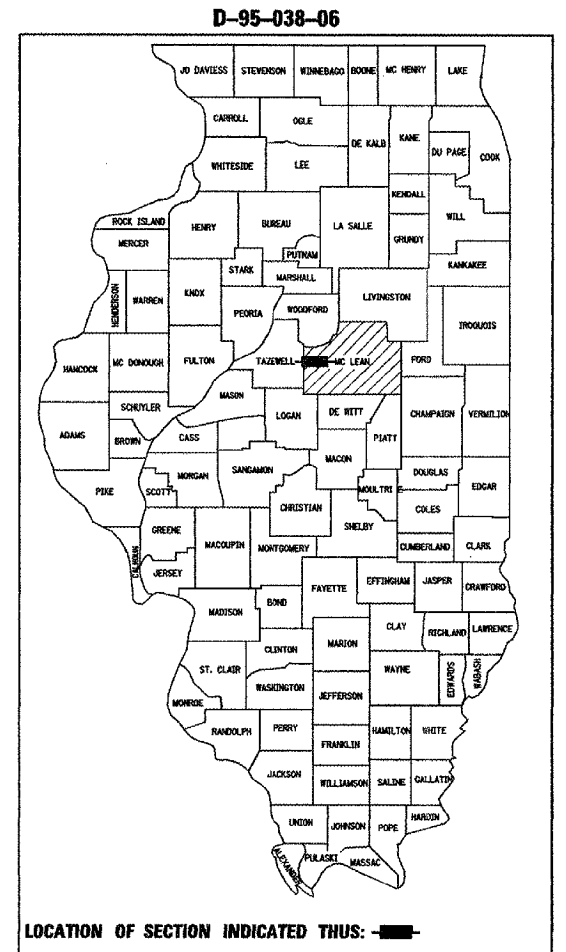
**C-95-039-06**

**BRIDGE REPLACEMENT OVER WEST FORK SUGAR CREEK,  
4.4 MILE NORTHWEST OF ILLINOIS 122**

**3TH P.M.  
R 1 W**

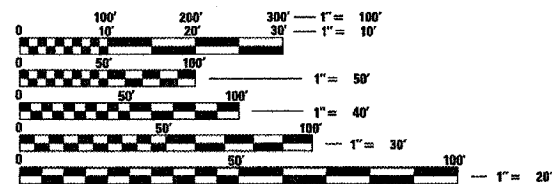
**HIGHWAY STANDARDS**

000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-01	AREAS OF REINFORCEMENT REBARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-03	TEMPORARY EROSION CONTROL SYSTEMS
420001-06	PAVEMENT JOINTS
420401-05	BRIDGE APPROACH PAVEMENT
421001-01	BAR REINFORCEMENT FOR CRC PAVEMENT
482011-02	HMA SHLD. STRIPS/ SHLDS. WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
515001-02	NAME PLATE FOR BRIDGES
630001-07	STEEL PLATE BEAM GUARDRAIL
630201-04	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-04	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-06	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
666001	RIGHT OF WAY MARKERS
667101	PERMANENT SURVEY MARKERS
701006-02	OFF-ROAD OPERATIONS 2L, 2W 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE
701301-02	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
702001-06	TRAFFIC CONTROL DEVICES
780001-01	TYPICAL PAVEMENT MARKINGS
781001-02	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKINGS
601101	CONCRETE HEADWALL FOR PIPE DRAIN



OTHER PRINCIPAL ARTERIAL  
F.A.P. RTE 693 (IL 9) ADT (2006) = 2400  
PV = 87.8% SU = 5.8% MU = 6.4%  
DESIGN SPEED = 55 MPH.

**SCALES**



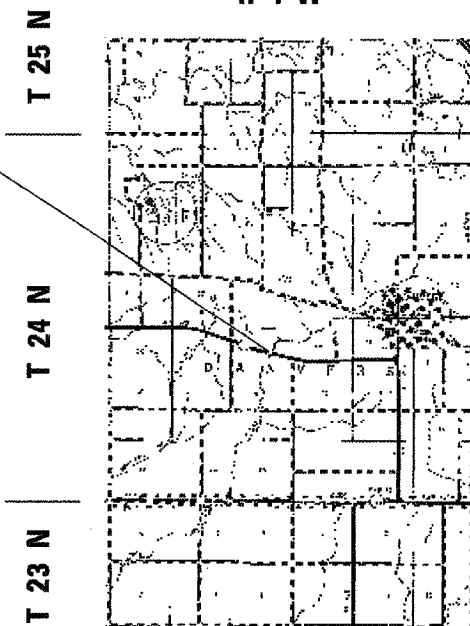
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS \_\_\_\_\_

JULIE 1-800-892-0123  
DISTRICT 5 NO. (217) 465-4181  
PROJECT ENGINEER: KENSIL GARNETT  
UNIT CHIEF: NANCY FASIG  
TOWNSHIP: DANVERS

**CONTRACT NO. 70518**

SECTION 120B INCLUDES:  
EXISTING STRUCTURE (SN 057-0090) AT STA. 1209+00 CARRYING FAP RTE. 693 (IL 9) OVER WEST FORK SUGAR CREEK TO BE REMOVED AND REPLACED.  
PROPOSED STRUCTURE (SN 057-0242) AT STA. 1209+03, SINGLE SPAN, 80' BK. TO BK. ABUTMENTS.



**LOCATION MAP  
NOT TO SCALE**

**GROSS LENGTH = 800.00 FEET = 0.152 MILES  
NET LENGTH = 800.00 FEET = 0.152 MILES**



*James Paul Biggers*  
JAMES PAUL BIGGERS P.E.  
DATE 8/13/07  
LICENSE EXPIRES 11/30/07

PLANS PREPARED BY:



**JOHNSON, DEPP & QUISENBERRY**  
CONSULTING ENGINEERS  
6480 South Sixth Street Road, Suite B  
Springfield, Illinois 62712  
Phone: (217) 529-4534 Fax: (217) 529-8278

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED 8/13 20 07

*Joseph E. Gowen*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

October 12, 20 07  
*Cris E. Horn*  
ENGINEER OF DESIGN AND ENVIRONMENT

October 12, 20 07  
*Milton R. Seas*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

G.N.-100  
ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N.-105.09A  
ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. (NAV D 88)

G.N.-107.31  
UTILITY LINES WERE PLOTTED FROM INFORMATION FURNISHED BY THE VARIOUS UTILITY COMPANIES INVOLVED (QUALITY LEVEL C &/OR QUALITY LEVEL D) AND THE ACCURACY SHOULD BE CONSIDERED APPROXIMATE ONLY.

UTILITY COMPANIES MAY BE ADJUSTING THEIR FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COOPERATE WITH THESE ORGANIZATIONS WHILE THESE ADJUSTMENTS ARE BEING PERFORMED. J.U.L.L.E. - JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS SYSTEM (800)892-0123 OR 811.

G.N.-281  
THE RIPRAP GRADATION SHALL BE IN ACCORDANCE WITH THE GRADATION SPECIFIED IN THE PLANS OR, WITH APPROVAL OF THE ENGINEER, A RIPRAP GRADATION MEETING A D50 GREATER THAN OR EQUAL TO:  
CLASS 4 - 0.75 FEET  
D50 IS DEFINED AS THE MEAN ROCK SIZE AS DESCRIBED IN THE FHWA HYDRAULIC ENGINEERING CIRCULARS (HEC 11, HEC 14 AND HEC 15).

IF GRAVEL IS USED FOR THE BEDDING MATERIAL UNDER RIPRAP, THE GRAVEL SHALL BE CRUSHED AS ALLOWED UNDER ARTICLE 1005.01.

G.N.-406  
THE QUANTITIES INCLUDED IN THE PLANS FOR HOT-MIX ASPHALT RESURFACING ARE INTENDED TO GIVE THE COVERAGE SHOWN ON THE TYPICAL CROSS SECTIONS. IT IS NOT INTENDED TO INCREASE THE THICKNESS OF THE HOT-MIX ASPHALT MIXTURE IN ORDER TO USE ALL OF THE QUANTITIES INCLUDED IN THE CONTRACT.

G.N.-406.05b  
ALL LEVELING BINDER OR BINDER SHALL BE GIVEN A FOG COAT OF PRIME BEFORE THE SURFACE COURSE IS PLACED WHEN DIRECTED BY THE ENGINEER.

THE FOG COAT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER GALLON FOR BITUMINOUS MATERIAL (PRIME COAT) AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

G.N.-482  
ALL MATERIAL PLACED AS HOT-MIX ASPHALT SHOULDERS SHALL BE COMPACTED TO 94.0 - 98.4 PERCENT OF THE MAXIMUM THEORETICAL DENSITY. THIS REQUIREMENT SHALL APPLY TO IL 9.5L GRADATION SHOULDER MIXES AND OTHER MIXES (BOTTOM LIFT OF SHOULDERS). THIS MAXIMUM DENSITY SHALL BE DETERMINED FROM THE MOVING AVERAGE OF FOUR TESTS AS IN OTHER OC/OA TESTING. A NUCLEAR GAUGE DENSITY/CORE CORRELATION SHALL BE PERFORMED FOR THE IL 9.5L MIXES AND OTHER MIXES USING STANDARD CORRELATION PROCEDURES.

G.N.-631  
IF THE CONTRACTOR ELECTS TO USE THE ALTERNATE MOUNTING METHOD OF THRU DRILLING THE MOUNTING HOLES FOR THE TRAFFIC BARRIER TERMINALS, TYPE G, THE HOLES SHALL BE DRILLED USING A CORE DRILL. A HAMMER DRILL WILL NOT BE ALLOWED.

G.N.-667  
THE RESIDENT ENGINEER SHALL CONTACT THE PROGRAM DEVELOPMENT CHIEF OF SURVEYS PRIOR TO THE PRE-CONSTRUCTION CONFERENCE FOR INSTRUCTION AS TO SETTING OF TEMPORARY OR PERMANENT TIES FOR CENTERLINE ALIGNMENT CONTROL SURVEY MARKERS (PC'S, PT'S, AND PI'S). PROJECT IMPLEMENTATION PERSONNEL WILL BE RESPONSIBLE FOR SETTING THESE MARKERS.

G.N.-781  
RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN ACCORDANCE WITH STANDARD 781001, AND THE DETAILS SHOWN IN THE PLANS. IF THERE IS ANY DISCREPANCY BETWEEN THE STANDARD AND THE DETAILS IN THE PLANS, THE DETAILS IN THE PLANS SHALL GOVERN. THE FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING THE RAISED REFLECTIVE PAVEMENT MARKERS AND THE RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED MIDWAY IN THE 30 FOOT (9 m) SPACE BETWEEN THE DASHED CENTERLINE STRIPES (WHEN APPLICABLE).

G.N.-1004.01  
COARSE AGGREGATE GRADATION CA-10 MAY BE USED WHENEVER COARSE AGGREGATE CA-6 IS SPECIFIED IN THE STANDARD SPECIFICATIONS.

G.N.-20038  
AN ALUMINUM TABLET OF THE TYPE SHOWN ON STANDARD 667101 SHALL BE PLACED ON THE PROPOSED STRUCTURE AS DIRECTED BY THE ENGINEER. THE BENCH MARK ELEVATION WILL BE ESTABLISHED AND MARKED BY THE DEPARTMENT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR PERMANENT BENCH MARKS.

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

GRANULAR MATERIALS	2.05	TONS / CU YD
BITUMINOUS MAT PRIME COAT	0.08	GAL / SQ YD OR
	0.375	GAL / SQ YD
AGGREGATE PRIME COAT	0.002	TONS / SQ YD
BITUMINOUS RESURFACING	112	LBS / SQ YD / IN
SHORT TERM PAVEMENT MARKING	10	FT / 100 FT OF APPLICATION
TEMPORARY DITCH CHECKS	9	BALES OR
	5	TONS AGGREGATE

A STRINGLINE SHALL BE USED TO ESTABLISH THE PROPOSED PROFILE THROUGHOUT THE JOB LIMITS AS SHOWN IN THE PLANS. SEE SPECIAL PROVISION "STRINGLINE" FOR COMPENSATION.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

SCALE: VERT. DATE  
HORIZ.

DRAWN BY  
CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	3
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

# SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE			
				STRUCTURE 80% FED 20% STATE X071-2A			
20200100	EARTH EXCAVATION	CU YD	60	60			
20300100	CHANNEL EXCAVATION	CU YD	59	59			
20400800	FURNISHED EXCAVATION	CU YD	780	780			
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	110	110			
25000200	SEEDING, CLASS 2	ACRE	0.50	0.50			
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	48	48			
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	48	48			
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	48	48			
25100115	MULCH, METHOD 2	ACRE	0.50	0.50			
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	53	53			
28000300	TEMPORARY DITCH CHECKS	EACH	4	4			
28000400	PERIMETER EROSION BARRIER	FOOT	538	538			
28100107	STONE RIPRAP, CLASS A4	SO YD	673	673			
28200200	FILTER FABRIC	SO YD	673	673			
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	235	235			
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	571	571			
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	146	146			
42001300	PROTECTIVE COAT	SO YD	222	222			
42001400	BRIDGE APPROACH PAVEMENT (SPECIAL)	SO YD	222	222			
42001430	BRIDGE APPROACH PAVEMENT CONNNECTOR (FLEXIBLE)	SO YD	44	44			
44000100	PAVEMENT REMOVAL	SO YD	205	205			
44000155	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"	SO YD	611	611			
44000700	APPROACH SLAB REMOVAL	SO YD	146	146			
48101200	AGGREGATE SHOULDERS, TYPE B	TON	24	24			
48203100	HOT-MIX ASPHALT SHOULDERS	TON	210	210			
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1			
50200100	STRUCTURE EXCAVATION	CU YD	694	694			
50300225	CONCRETE STRUCTURES	CU YD	30.8	30.8			
50300255	CONCRETE SUPERSTRUCTURE	CU YD	112.3	112.3			
50300260	BRIDGE DECK GROOVING	SO YD	267	267			
50300280	CONCRETE ENCASEMENT	CU YD	4.2	4.2			

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION TYPE CODE			
				STRUCTURE 80% FED 20% STATE X071-2A			
50300300	PROTECTIVE COAT	SO YD	352	352			
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1			
50500505	STUD SHEAR CONNECTORS	EACH	1,134	1,134			
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	24,720	24,720			
50800515	BAR SPLICERS	EACH	64	64			
51201600	FURNISHING STEEL PILES HP12X53	FOOT	640	640			
51202305	DRIVING PILES	FOOT	640	640			
51203600	TEST PILE STEEL HP12X53	EACH	2	2			
51500100	NAME PLATES	EACH	1	1			
52100520	ANCHOR BOLTS, 1"	EACH	24	24			
59100100	GEOCOMPOSITE WALL DRAIN	SO YD	60	60			
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	134	134			
63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	50.0	50.0			
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4			
63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	4	4			
63200310	GUARDRAIL REMOVAL	FOOT	484	484			
66500105	WOVEN WIRE FENCE, 4'	FOOT	370	370			
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	6	6			
66700205	PERMANENT SURVEY MARKERS, TYPE 1	EACH	1	1			
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	5			
67100100	MOBILIZATION	L SUM	1	1			
70101800	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1	1			
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,800	1,800			
78200410	GUARDRAIL MARKERS, TYPE A	EACH	6	6			
78200530	BARRIER WALL MARKERS, TYPE C	EACH	2	2			
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4			
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	11	11			
X0324865	DIAMOND GRINDING (BRIDGE SECTION)	SO YD	436	436			
20001900	ASBESTOS BEARING PAD REMOVAL	EACH	22	22			
20022800	FENCE REMOVAL	FOOT	376	376			
20037300	PAVEMENT GROOVING	SO YD	186	186			

LEGEND

- SPECIALTY ITEM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

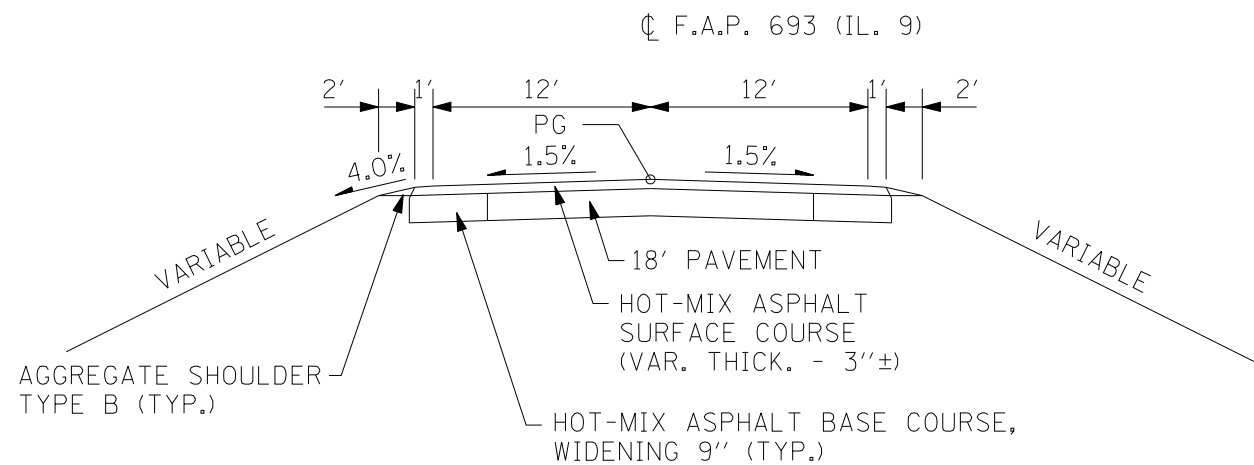
**SUMMARY OF QUANTITIES**  
**SHEET 1 OF 1**

SCALE: VERT. NONE  
HORIZ. NONE

DRAWN BY:  
CHECKED BY:

DATE:

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	McLEAN	31	4
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



### EXISTING TYPICAL SECTION

STA. 1204+50.00 TO STA. 1208+78.56  
 STA. 1208+78.56 TO STA. 1209+21.44 (BRIDGE OMISSION)  
 STA. 1209+21.44 TO STA. 1212+50.00

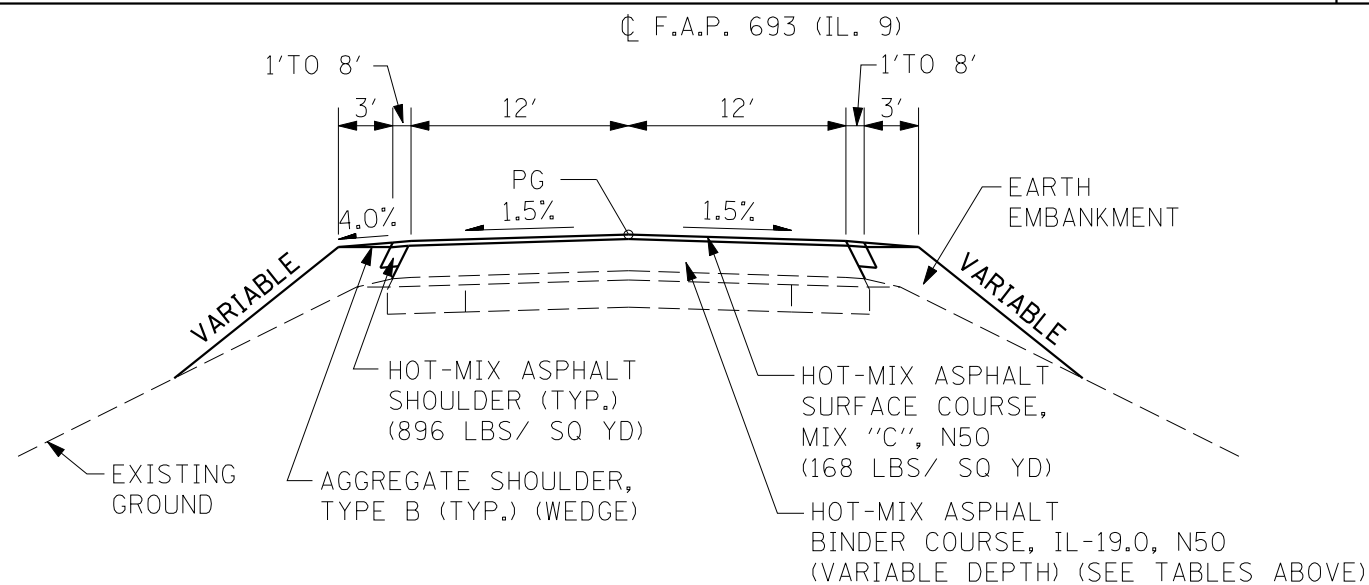
STATION	HMA BINDER THICKNESS
	FT
1204+50	0.00 (BUTT JOINT)
1205+00	0.00 (BUTT JOINT)
1205+50	0.08
1206+00	0.35
1206+50	0.58
1207+00	0.93
1207+50	1.11

STATION	HMA BINDER THICKNESS
	FT
1208+00	1.40
1208+50	0.00 (APPR PVMT)
1209+00	0.00 (BRIDGE)
1209+50	0.00 (APPR PVMT)
1210+00	0.97

STATION	HMA BINDER THICKNESS
	FT
1210+50	0.56
1211+00	0.27
1211+50	0.00 (BUTT JOINT)
1212+00	0.00 (BUTT JOINT)
1212+50	0.00 (BUTT JOINT)

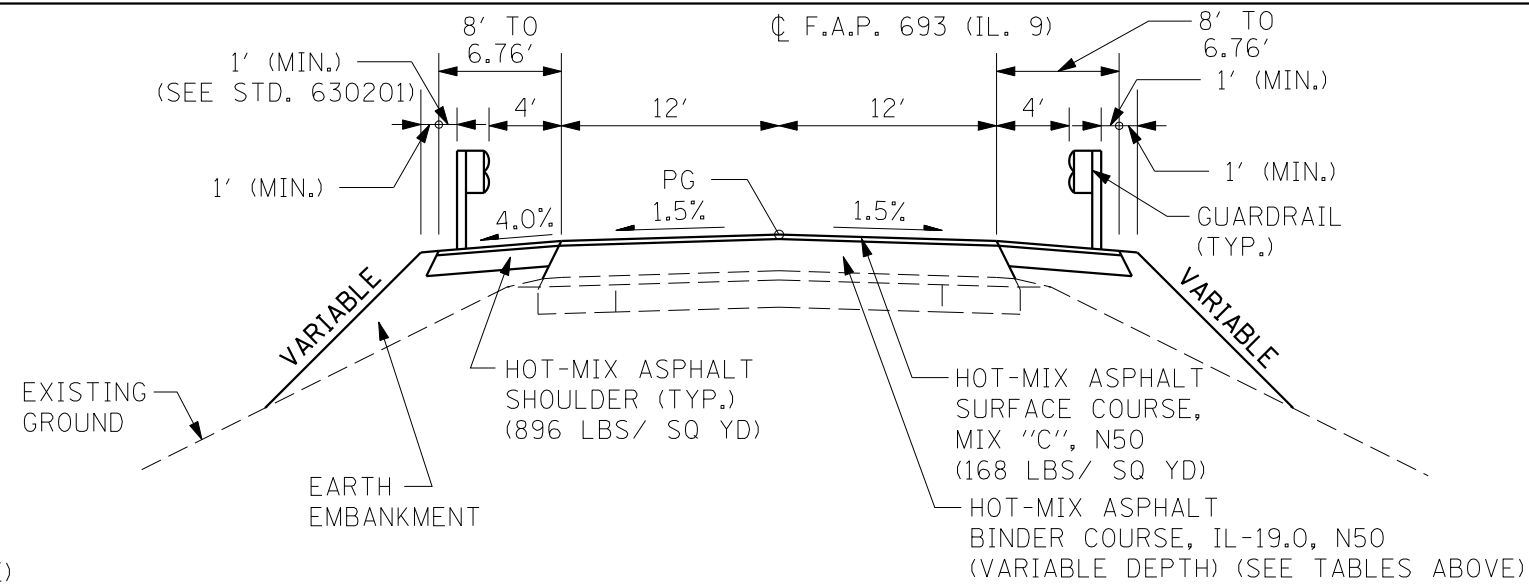
MIXTURE USE	BINDER, FLEX. CONN., BOTTOM LIFT SHLD. (6 1/2")	SURFACE & TOP LIFT SHLD. (1 1/2")
PG GRADE	PG 64-22	PG 64-22
MAX % RAP ALLOWABLE	25%	15%
DESIGN AIR VOIDS	4.0% @ Ndes = 50	4.0% @ Ndes = 50
MIXTURE COMPOSITION	IL 19.0	IL 9.5
FRICTION AGGREGATE	N.A.	MIX C
PLANT CONTROL LIMITS	HIGH ESAL	HIGH ESAL
DENSITY CONTROL METHOD	NUCLEAR	NUCLEAR

IF RAP OPTION IS SELECTED, THE ASPHALT CEMENT GRADE MAY NEED TO BE ADJUSTED. THIS WILL BE DETERMINED BY THE ENGINEER.



### PROPOSED TYPICAL SECTION

LT. STA. 1204+50.00 TO LT. STA. 1207+69.85  
 RT. STA. 1204+50.00 TO RT. STA. 1207+44.85  
 RT. STA. 1210+36.15 TO RT. STA. 1212+50.00  
 LT. STA. 1210+61.15 TO LT. STA. 1212+50.00



### PROPOSED TYPICAL SECTION

RT. STA. 1207+44.85 TO RT. STA. 1208+63.00  
 LT. STA. 1207+69.85 TO LT. STA. 1208+63.00  
 STA. 1208+63.00 TO STA. 1209+43.00 (BRIDGE OMISSION)  
 LT. STA. 1209+43.00 TO LT. STA. 1210+61.15  
 RT. STA. 1209+43.00 TO RT. STA. 1210+36.15

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.P. RTE. 693 (IL. 9)  
 TYPICAL SECTIONS

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE \_\_\_\_\_ DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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**ITEM NO. 20200100 EARTH EXCAVATION**  
**ITEM NO. 20400800 FURNISHED EXCAVATION**

LOCATION	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CU. YD.	CU. YD.	CU. YD.	CU. YD.
IL 9 STA. 1204+50 TO STA. 1208+63	27.0	20.3	744.4	-724.1
IL 9 STA. 1209+43 TO STA. 1212+50	30.3	22.8	77.3	-54.5
TOTAL =	57.3	43.1	821.7	-778.6

ASSUME SHRINKAGE FACTOR - 25% EARTH EXCAVATION

PAY ITEMS

EARTH EXCAVATION - 60 CU. YD.  
 FURNISHED EXCAVATION - 780 CU. YD.

**ITEM NO. 20300100 CHANNEL EXCAVATION**

LOCATION	CU. YD.
STA. 1208+63 TO STA. 1209+43	59
TOTAL =	59

- ITEM NO. 25000200 SEEDING, CLASS 2
- ITEM NO. 25000400 NITROGEN FERTILIZER NUTRIENT
- ITEM NO. 25000500 PHOSPHORUS FERTILIZER NUTRIENT
- ITEM NO. 25000600 POTASSIUM FERTILIZER NUTRIENT
- ITEM NO. 25100115 MULCH, METHOD 2
- ITEM NO. 28000250 TEMPORARY EROSION CONTROL SEEDING

LOCATION	SEEDING					
	CLASS 2	TEMP. EROS. CONTR. SEEDING	FERTILIZER NUTRIENT			MULCH METHOD 2
			NITROGEN	PHOSPHORUS	POTASSIUM	
ACRE	LBS.	LBS.	LBS.	LBS.	ACRE	
IL 9 STA. 1204+50 TO STA. 1208+63	0.42	42	38	38	38	0.42
IL 9 STA. 1209+43 TO STA. 1212+50	0.11	11	10	10	10	0.11
TOTAL =	0.53	53	48	48	48	0.53
USE	0.50					0.50

**ITEM NO. 28000300 TEMPORARY DITCH CHECKS**

TEMP. DITCH CHECKS

LOCATION	EACH
STA. 1205+50 RT.	1
STA. 1207+30 RT.	1
STA. 1209+45 RT.	1
STA. 1209+55 LT.	1
TOTAL =	4

**ITEM NO. 28000400 PERIMETER EROSION BARRIER**

LOCATION	FOOT
LT. STA. 1204+50 TO LT. STA. 1208+53	403
RT. STA. 1207+30 TO RT. STA. 1208+65	135
TOTAL =	538

**ITEM NO. 40600100 BITUMINOUS MATERIALS (PRIME COAT)**

LOCATION	GALLON
<b>FIRST COURSE (EXISTING PAVEMENT)</b>	
STA. 1205+50.00 TO STA. 1208+27	61
STA. 1209+79 TO STA. 1211+38.40	35
<b>SECOND COURSE (NEW BINDER)</b>	
STA. 1204+50 TO STA. 1208+27	81
STA. 1209+79 TO STA. 1212+50	58
TOTAL =	235

**ITEM NO. 42001300 PROTECTIVE COAT**

LOCATION	SO. YD.
STA. 1208+33 TO STA. 1208+63	111
STA. 1209+43 TO STA. 1209+73	111
TOTAL =	222

**ITEM NO. 42001400 BRIDGE APPROACH PAVEMENT (SPECIAL)**

LOCATION	SO. YD.
STA. 1208+33 TO STA. 1208+63	111
STA. 1209+43 TO STA. 1209+73	111
TOTAL =	222

**ITEM NO. 42001430 BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)**

LOCATION	SO. YD.
STA. 1208+27 TO STA. 1208+33	22
STA. 1209+73 TO STA. 1209+79	22
TOTAL =	44

**ITEM NO. 44000100 PAVEMENT REMOVAL**

LOCATION	SO. YD.
STA. 1208+27 TO STA. 1208+58	94
STA. 1209+42 TO STA. 1209+79	111
TOTAL =	205

**ITEM NO. 44000155 HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"**

LOCATION	SO. YD.
STA. 1204+50 TO STA. 1205+50.00	289
STA. 1211+38.40 TO STA. 1212+50	322
TOTAL =	611

**ITEM NO. 44000700 APPROACH SLAB REMOVAL**

LOCATION	SO. YD.
STA. 1208+58 TO STA. 1208+78	73
STA. 1209+22 TO STA. 1209+42	73
TOTAL =	146

**ITEM NO. 48102100 AGGREGATE WEDGE SHOULDER, TYPE B**

LOCATION	TON
LT. STA. 1204+50 TO LT. STA. 1207+36	8
RT. STA. 1204+50 TO RT. STA. 1207+11	7
RT. STA. 1210+70 TO RT. STA. 1212+50	5
LT. STA. 1210+95 TO LT. STA. 1212+50	4
TOTAL =	24

**ITEM NO. 63000000 STEEL PLATE BEAM GUARD RAIL, TYPE A**

LOCATION	FOOT
RT. STA. 1207+94.85 TO RT. STA. 1208+19.85	25.0
LT. STA. 1209+86.15 TO LT. STA. 1210+11.15	25.0
TOTAL =	50.0

**ITEM NO. 63100085 TRAFFIC BARRIER TERMINAL, TYPE 6**

LOCATION	EACH
LT. STA. 1208+19.85 TO LT. STA. 1208+63	1
RT. STA. 1208+19.95 TO RT. STA. 1208+63	1
LT. STA. 1209+43 TO LT. STA. 1209+86.15	1
RT. STA. 1209+43 TO RT. STA. 1209+86.15	1
TOTAL =	4

**ITEM NO. 63100167 TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)**

LOCATION	EACH
RT. STA. 1207+44.85 TO RT. STA. 1207+94.85	1
LT. STA. 1207+69.85 TO LT. STA. 1208+19.85	1
RT. STA. 1209+86.15 TO RT. STA. 1210+36.15	1
LT. STA. 1210+11.15 TO LT. STA. 1210+61.15	1
TOTAL =	4

**ITEM NO. 63200310 GUARDRAIL REMOVAL**

LOCATION	FOOT
LT. STA. 1207+57 TO LT. STA. 1208+78	121
RT. STA. 1207+57 TO RT. STA. 1208+78	121
LT. STA. 1209+22 TO LT. STA. 1210+43	121
RT. STA. 1209+22 TO RT. STA. 1210+43	121
TOTAL =	484

**ITEM NO. 66600105 FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS**

LOCATION	EACH
STA. 1207+88.24	LT. 40' 1
STA. 1207+98.15	RT. 40' 1
STA. 1210+00	LT. 40' 1
STA. 1210+00	RT. 40' 1
STA. 1211+00	LT. 33' 1
STA. 1211+00	RT. 33' 1
TOTAL =	6

**ITEM NO. 66700205 PERMANENT SURVEY MARKERS, TYPE 1**

LOCATION	EACH
STRUCTURE NO. 057-0242	1
TOTAL =	1

**ITEM NO. 67000400 ENGINEER'S FIELD OFFICE, TYPE A**

5 CAL. MO.

**ITEM NO. 67100100 MOBILIZATION**

1 LUMP SUM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: VERT. HORIZ. DATE

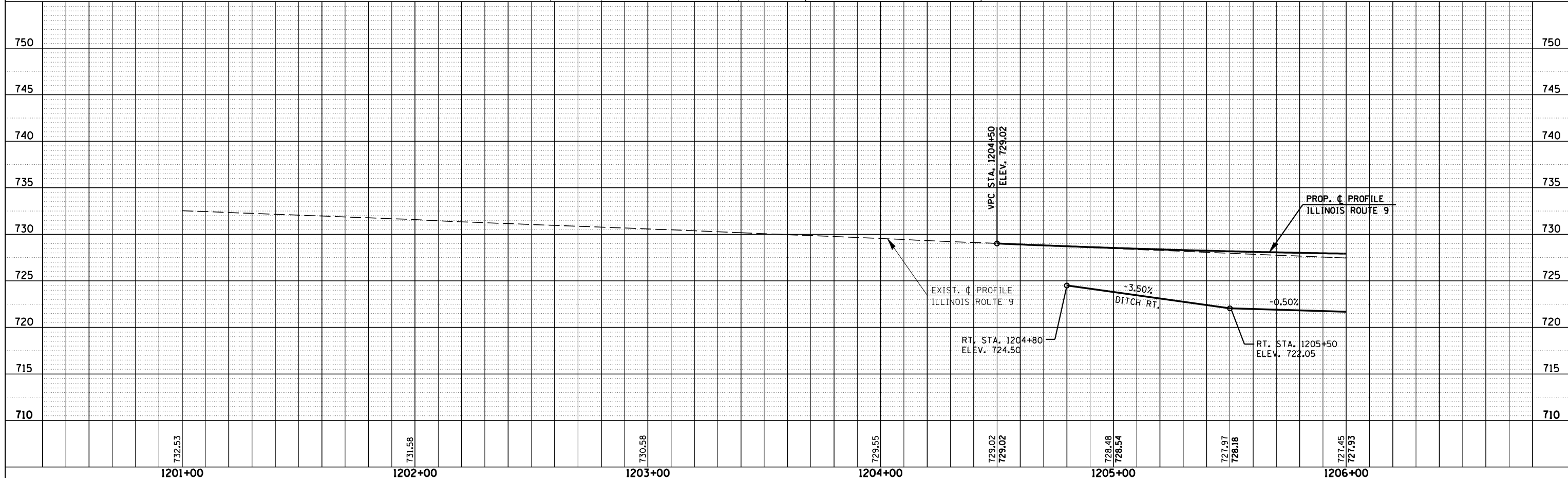
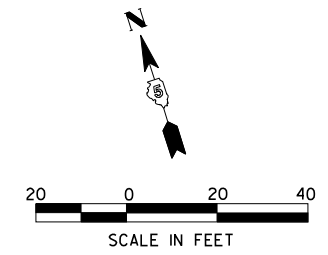
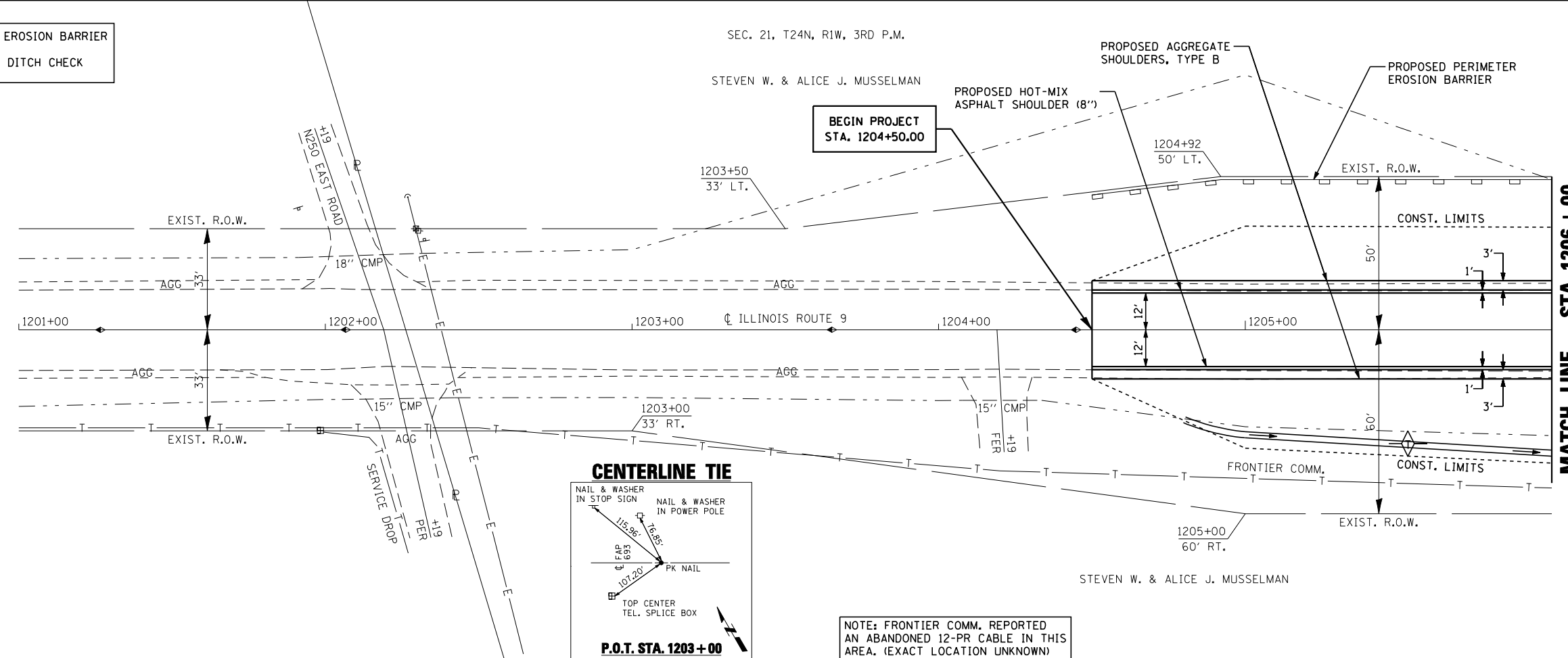
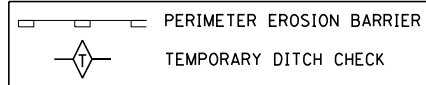
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 693	120B	MCLEAN	31	7
STA 1201+00	TO STA 1206+00			
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. OF WAY CHECKED	
	CADD FILE NAME	

PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. OF WAY CHECKED	
	STRUCTURE NOTATIONS CHKD	

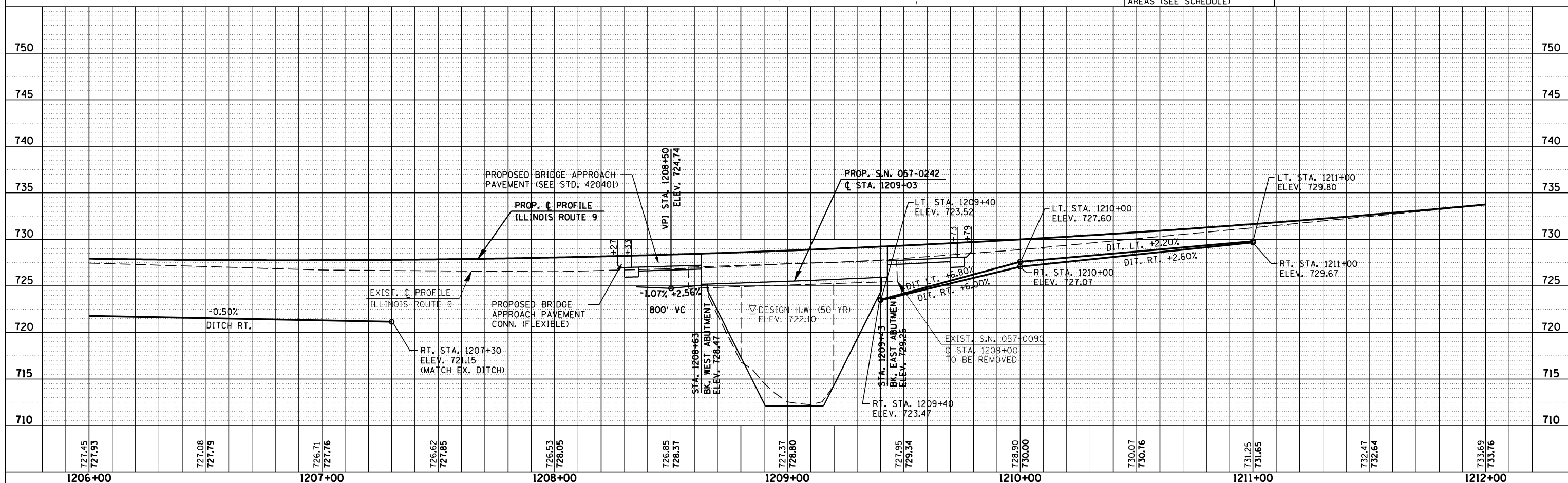
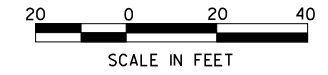
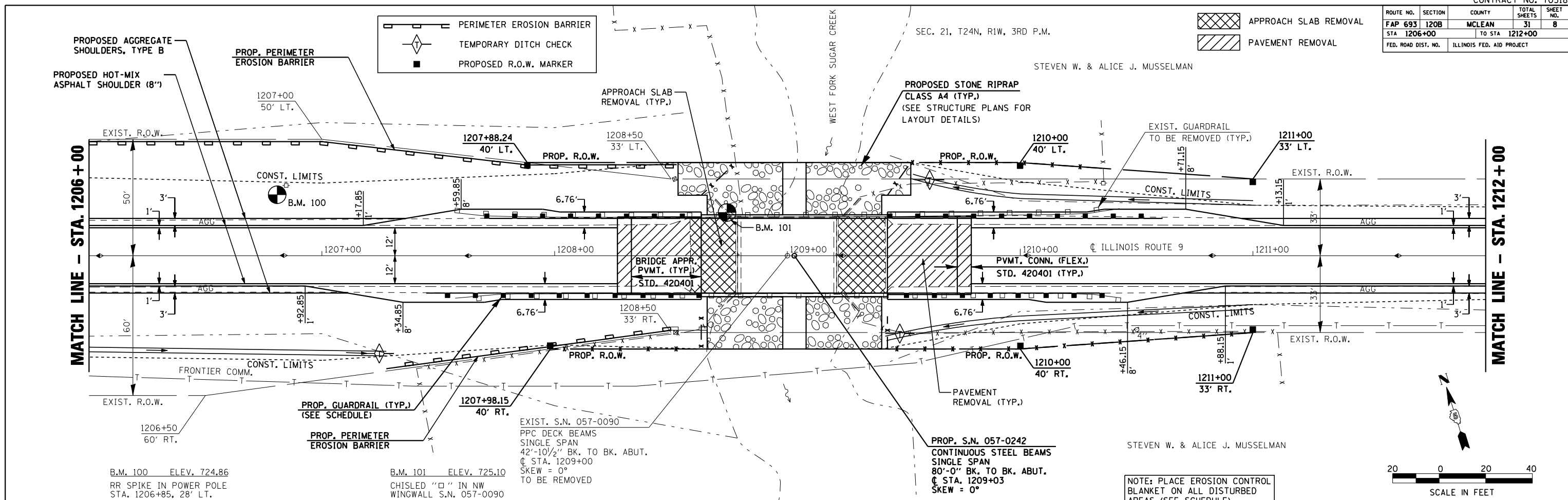


**ILLINOIS ROUTE 9 - STA. 1201+00 TO STA. 1206+00**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 693	120B	MCCLEAN	31	8
STA 1206+00		TO STA 1212+00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

DATE	BY

DATE	BY



**ILLINOIS ROUTE 9 – STA. 1206 + 00 TO STA. 1212 + 00**

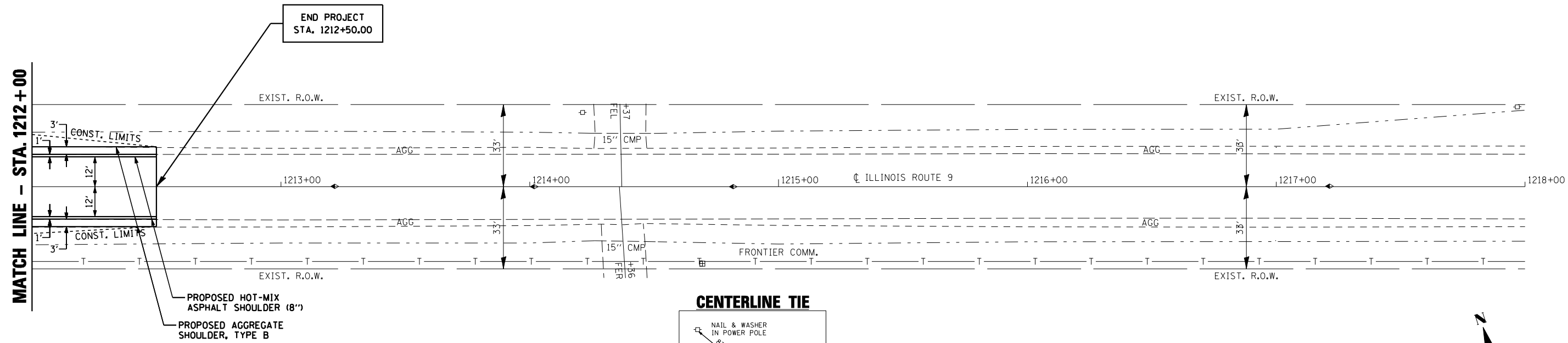


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 693	120B	MCLEAN	31	9
STA 1212+00	TO STA 1218+00			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

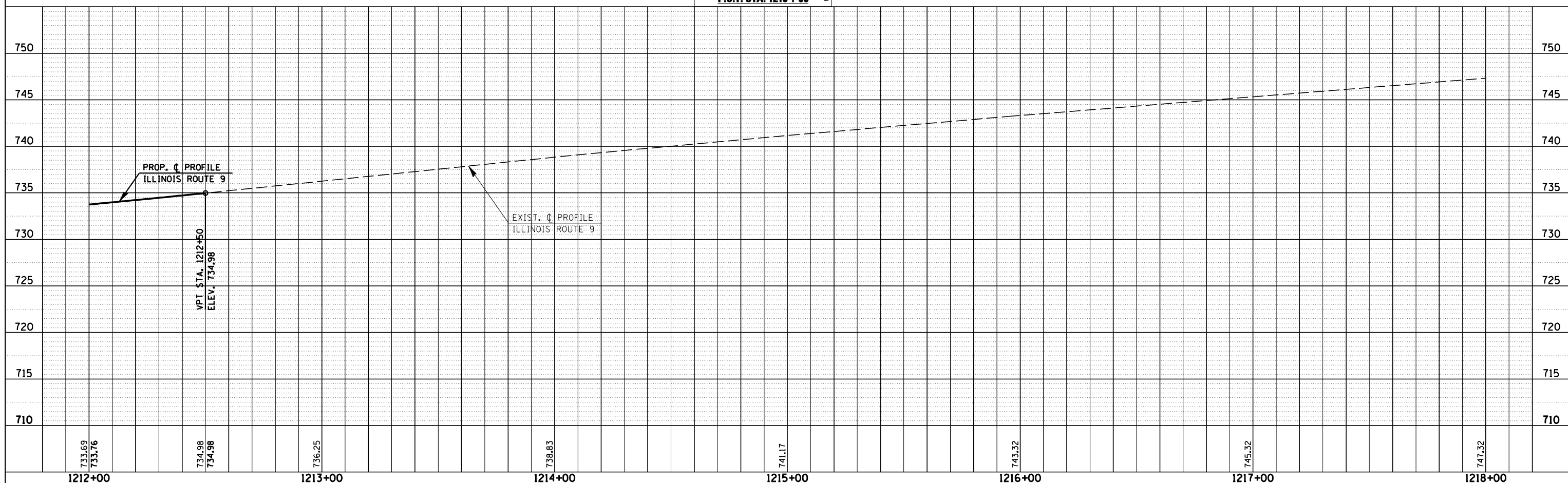
SEC. 21, T24N, R1W, 3RD P.M.

STEVEN W. & ALICE J. MUSSELMAN

PLAN	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. OF WAY CHECKED	
	CADD FILE NAME	

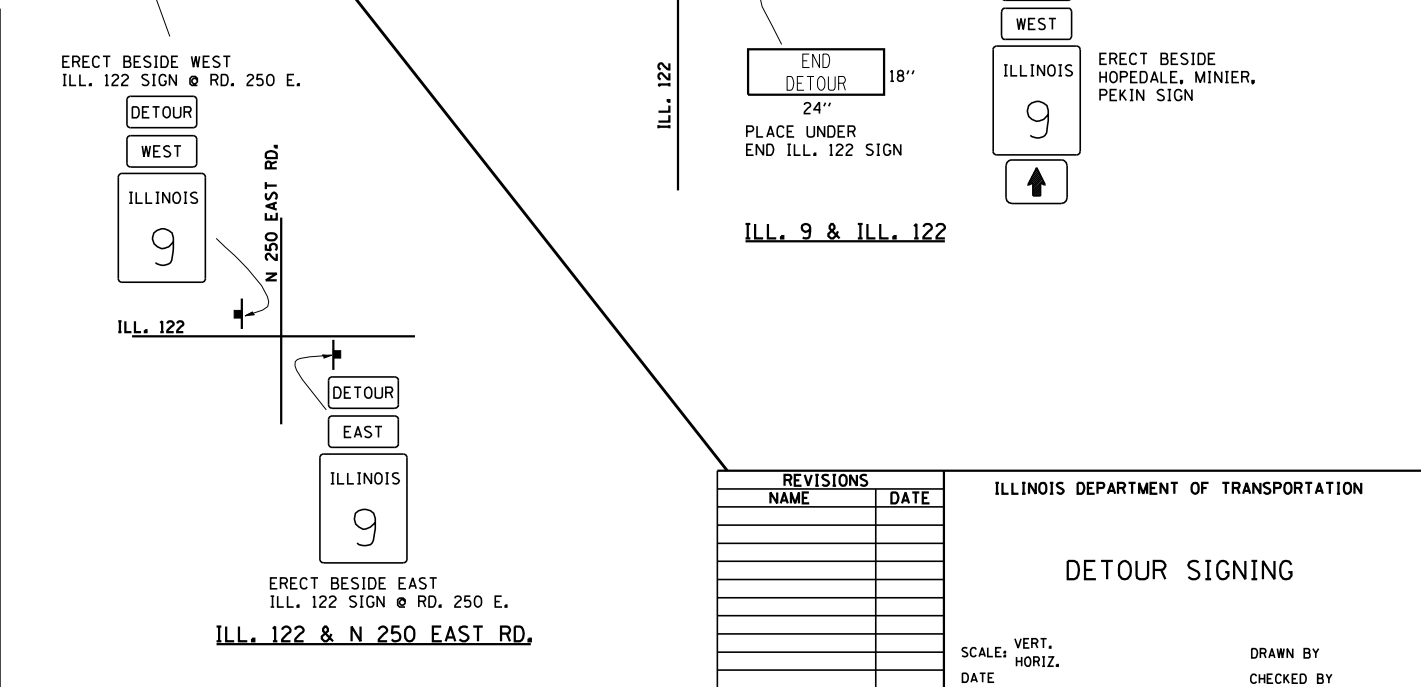
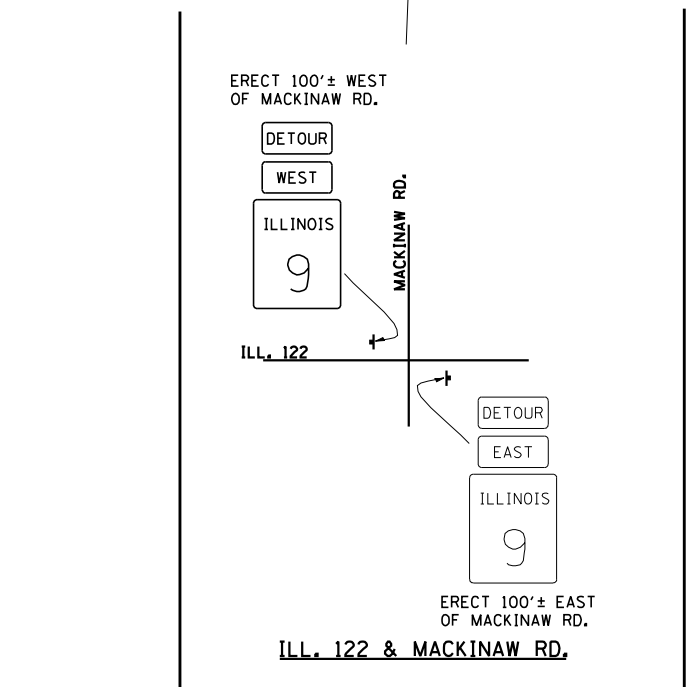
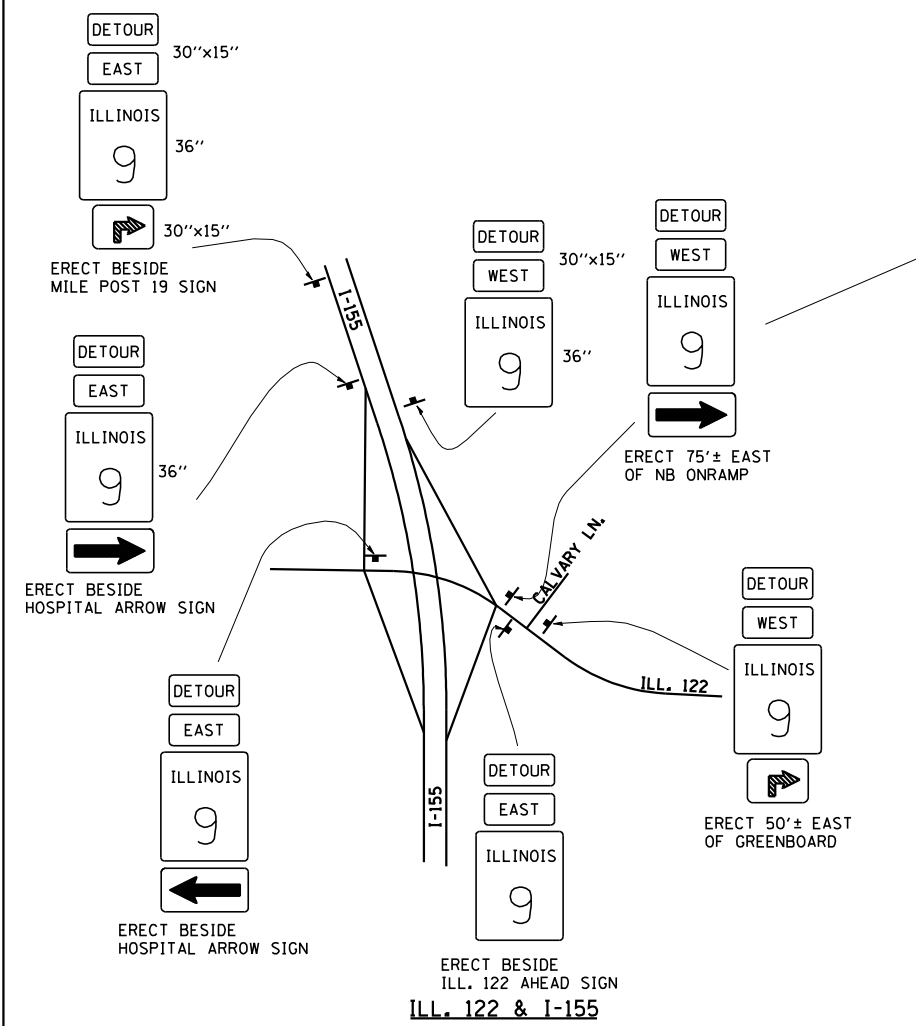
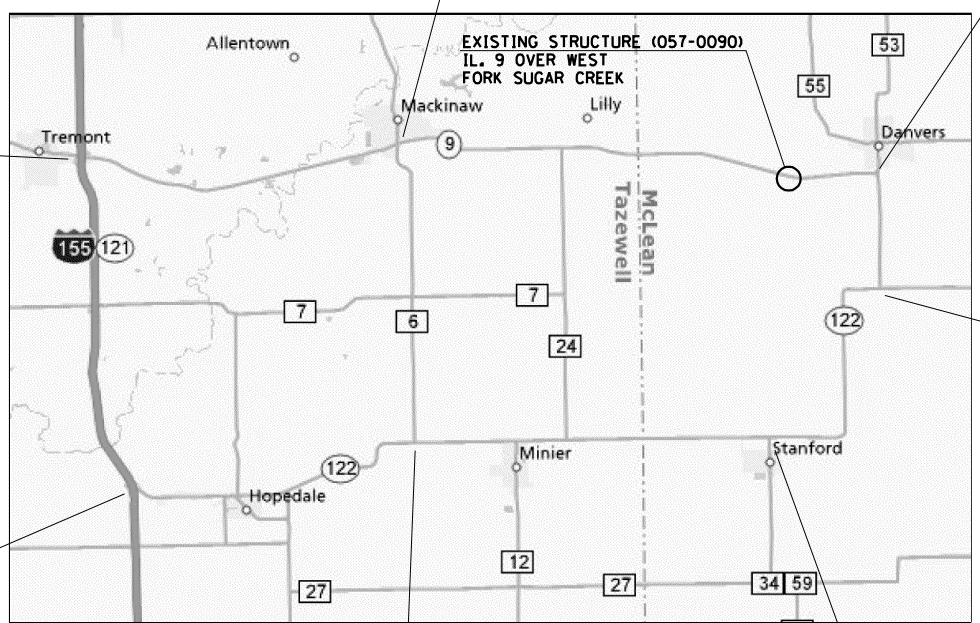
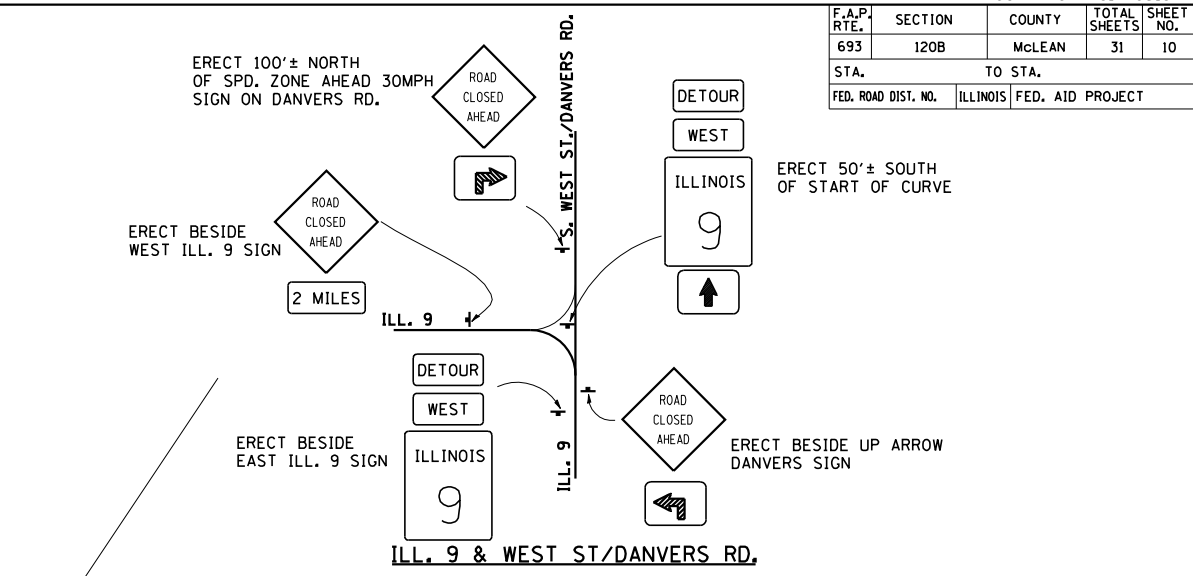
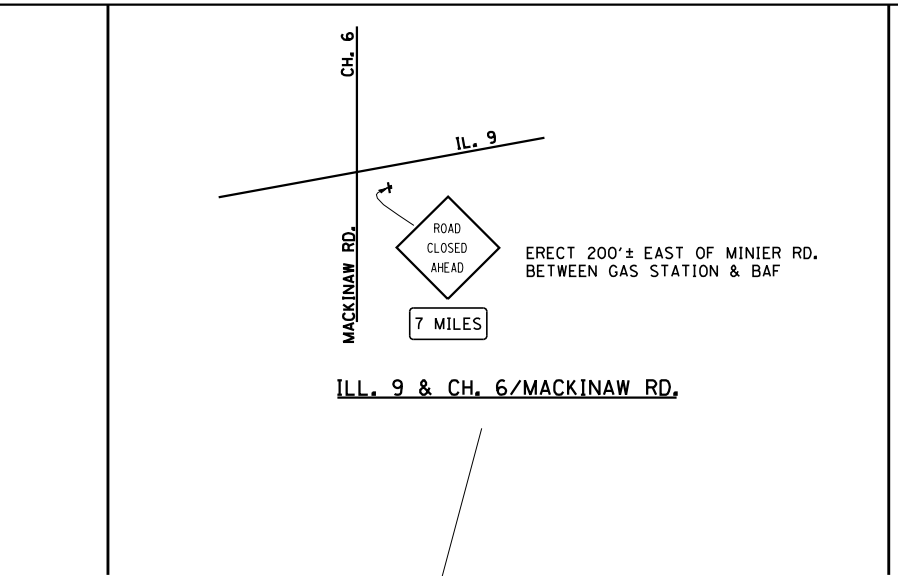
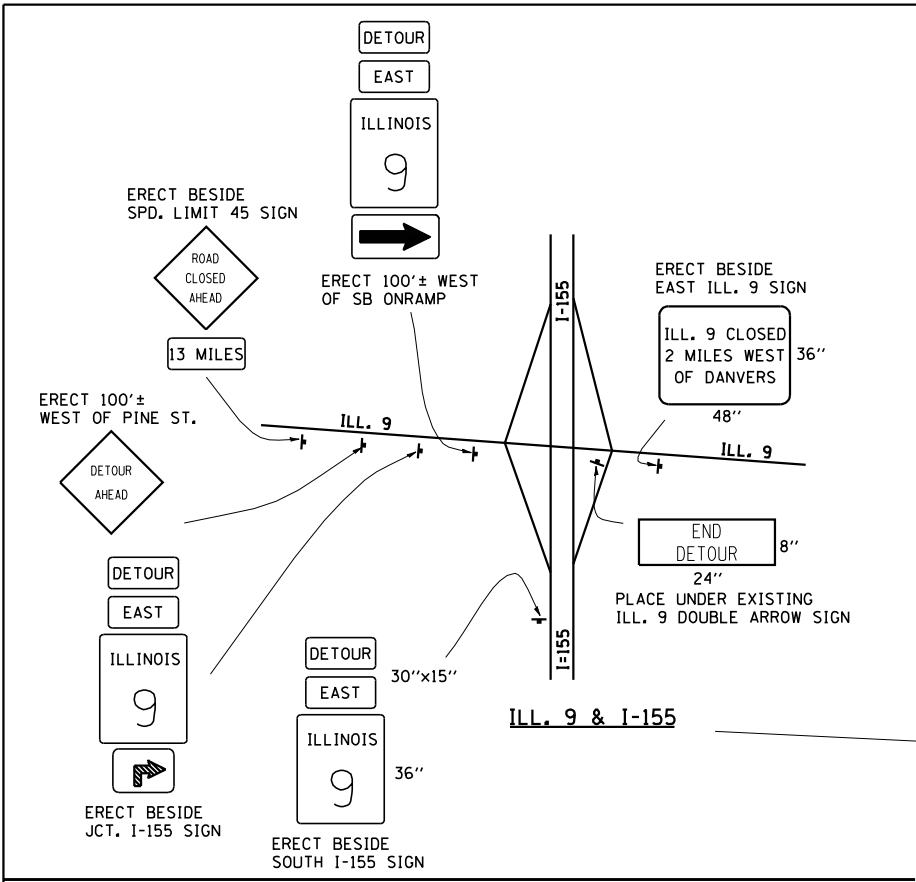


PROFILE	SURVEYED	DATE
	PLOTTED	
	CHECKED	
	BY	
	NO. OF WAY CHECKED	
	STRUCTURE NOTATIONS CHK'D	



**ILLINOIS ROUTE 9 - STA. 1212+00 TO STA. 1218+00**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	McLEAN	31	10
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**DETOUR SIGNING**

SCALE: VERT. HORIZ.  
DATE: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_

PLOT DATE = 8/13/2007  
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 PLOT SCALE = 211.7647 "/>

5497001

STEVEN W. AND ALICE J. MUSSELMAN

TOTAL ROW AREA REQUIRED = 0.073 AC.±

PART OF LOT 3 IN THE SOUTHEAST QUARTER OF SECTION 21, TOWNSHIP 24 NORTH, RANGE 1 WEST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO A PLAT RECORDED IN BOOK 2 OF PLATS ON PAGE 76; EXCEPT THAT PORTION CONVEYED TO THE PEOPLE OF THE STATE OF ILLINOIS FOR HIGHWAY PURPOSES BY DEED RECORDED SEPTEMBER 10, 1928 IN BOOK 392 OF DEEDS, PAGE 22 AS DOCUMENT NO. 36161, IN McLEAN COUNTY, ILLINOIS.



**NOTES**  
BEARINGS BASED ON PLANS KNOWN AS SBI ROUTE 164, SECTION 120, DATED 1928.  
 □ RIGHT OF WAY MARKER FOUND  
 ● IRON PIN OR PIPE FOUND  
 - - - - - EXISTING FENCE  
 ( ) RECORD DATA  
 FIELD WORK COMPLETED = SEPTEMBER 2006

P.O.C.  
TRACT A & TRACT B  
1201+73.83  
175.10' LT.  
NW COR. SE 1/4  
SEC. 21-24-1  
FOUND IRON PIN  
PER MONUMENT RECORD  
DOCUMENT NO. 86-2853

1202+26.22  
ON CENTERLINE  
EXIST. R.O.W. LINE  
(1203+50)  
(33' LT.)

(1203+00)  
(33' RT.)  
EXIST. R.O.W. LINE

WEST LINE SE 1/4 SEC. 21-24-1 S 1° 05' 20" E 2663.73'

(1204+92)  
(50' LT.)

1205+00  
S 74° 26' 00" E 562.02'  
S 74° 26' 00" E 571.93'

(1207+00)  
(50' LT.)

P.O.B.  
TRACT A  
1207+88.24  
40.00' LT.

1207+88.24  
ON CENTERLINE

(1205+00)  
(60' RT.)

(1206+50)  
(60' RT.)

(1208+50)  
(33' RT.)

1207+98.15  
40.00' RT.  
P.O.B.  
TRACT B

EXISTING STRUCTURE  
STATION 1209+00.00  
SN. 057-0090

1207+98.15  
ON CENTERLINE

(1208+50)  
(33' LT.)

PROPOSED  
R.O.W. LINE  
TRACT A  
AREA = 0.037 AC.±

COURSE	BEARING	DISTANCE
L-1	N 15° 34' 00" E	40.00'
L-2	S 74° 26' 00" E	211.76'
L-3	S 70° 25' 45" E	100.24'
L-4	N 74° 26' 00" W	250.00'
L-5	N 67° 58' 03" W	62.16'

1210+00.00  
40.00' LT.

1211+00.00  
33.00' LT.

1210+00

1210+00.00  
33.00' RT.

1210+00.00  
40.00' RT.

PROPOSED  
R.O.W. LINE  
TRACT B  
AREA = 0.036 AC.±

COURSE	BEARING	DISTANCE
L-6	S 15° 34' 00" W	40.00'
L-7	S 82° 07' 18" E	52.32'
L-8	S 74° 26' 00" E	250.00'
L-9	N 78° 26' 15" W	100.24'
L-10	N 74° 26' 00" W	201.85'

LOT 4

LOT 3

LOT 3  
SUB OF SE 1/4 SEC. 21-24-1  
(PLAT BOOK 2 PAGE 76)

WEST FORK SUGAR CREEK



THIS PLAT OF SURVEY WAS MADE UNDER MY DIRECTION FOR THE DIVISION OF HIGHWAYS, STATE OF ILLINOIS AND CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY.

*Kenneth W. Hackney*  
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 3135  
LICENSE EXPIRES 11/30/08

SW COR. SE 1/4  
SEC. 21-24-1  
FOUND IRON PIN  
PER MONUMENT RECORD  
DOCUMENT NO. 86-2853



RIGHT OF WAY PLAT

SCALE: 1" = 50' DATE 1/29/2007 JOB NO. R-95-049-07

BY	DATE	COMPUTED	CHECKED	INKED	INK CHECKED

R.O.W. PLAT NOTE BOOK

B.M. 101: Chiseled square in NW wingwall of existing S.N. 057-0090. Elev. 725.10.

EXISTING STRUCTURE, S.N. 057-0090, originally constructed in 1928 as SBI 164 Sec. 120B at Station 1209+00, superstructure replaced on widened abutments in 1973 as SBI 164 Sec. 120BR, using 21" PPC Deck Beams with 2 1/2" bituminous overlay, 42'-10 1/2" back-back abutments, 33'-0" out-out width, R.C. closed abutments on timber pile footings. Existing structure shall be removed and replaced while traffic is detoured.

No Salvage.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET 1  
OF 12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	12
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	CONTRACT NO. 70518

INDEX OF SHEETS

Sheet No.	Description
1	General Plan, General Notes & Bill of Material
2	Top of Slab Elevations
3	Top of Approach Slab Elevations
4	Superstructure Deck Plan and Typical Section
5	Superstructure Diaphragm Details
6	Superstructure Parapet
7	Structural Steel & Framing Plan
8	Abutments
9	Piles
10	Bar Splicer Assembly Details
11-12	Soil Borings

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts 1/8 in. φ, holes 1/8 in. φ, unless otherwise noted.

All structural steel shall be AASHTO M 270 Grade 50W. Calculated weight of Structural Steel = 85520 lbs.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions. Reinforcement bars designated (E) shall be epoxy coated.

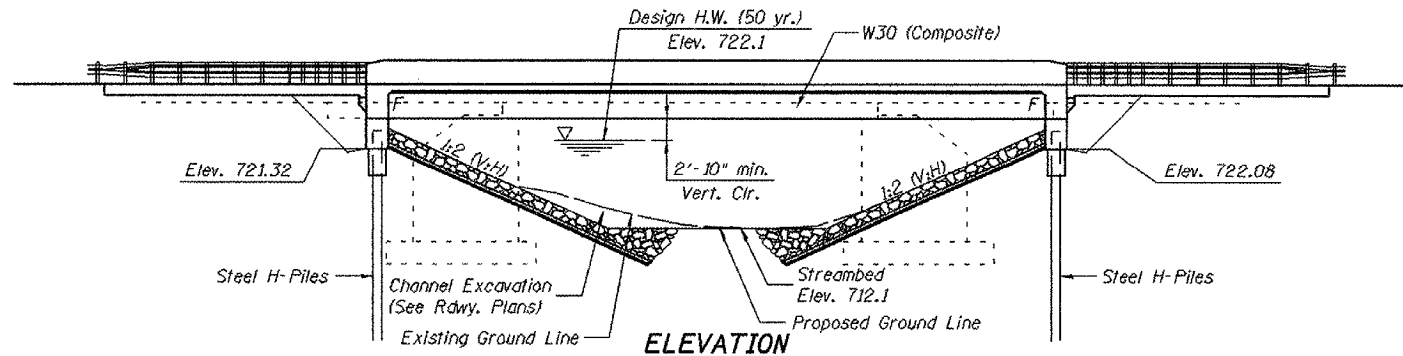
Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Those areas shall be primed in the shop with a Department approved zinc rich primer. No field painting shall be required. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

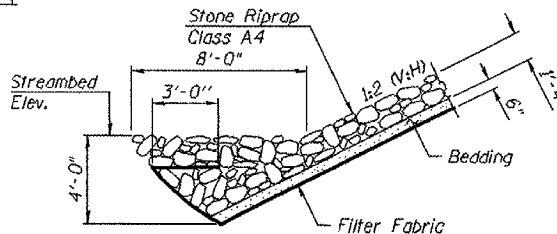
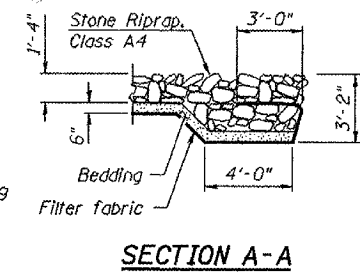
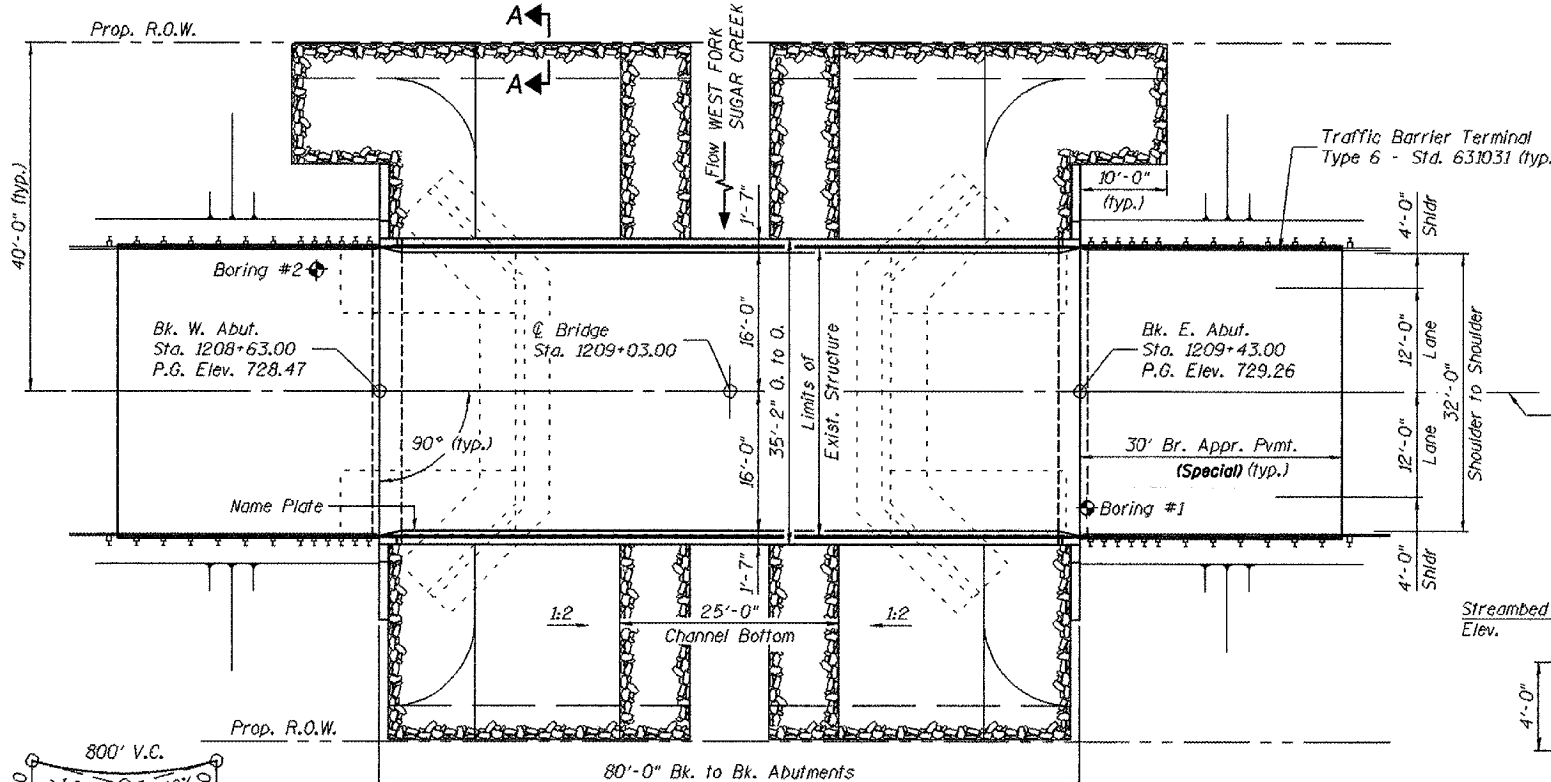
Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

The existing bearing pads at the East Abutment contain asbestos. The Contractor shall take appropriate precautions to deal with the presence and disposal of asbestos on this project. See Special Provisions.



STATION 1209+03.00  
BUILT \_\_\_\_\_ BY  
STATE OF ILLINOIS  
F.A.P. RTE. 693 SEC. 120B  
LOADING HS20  
STR. NO. 057-0242

NAME PLATE  
See Std. 515001



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu Yd	--	110	110
Stone Riprap, Class A4	Sq Yd	--	673	673
Filter Fabric	Sq Yd	--	673	673
Removal Of Existing Structures	Each	1	--	1
Structure Excavation	Cu Yd	--	694	694
Concrete Structures	Cu Yd	--	30.8	30.8
Concrete Superstructure	Cu Yd	112.3	--	112.3
Bridge Deck Grooving	Sq Yd	267	--	267
Concrete Encasement	Cu Yd	--	4.2	4.2
Protective Coat	Sq Yd	352	--	352
Furnishing And Erecting Structural Steel	L Sum	1	--	1
Stud Shear Connectors	Each	1134	--	1134
Reinforcement Bars, Epoxy Coated	Pound	21060	3660	24720
Bar Splicers	Each	64	--	64
Furnishing Steel Piles HP 12x53	Foot	--	640	640
Driving Piles	Foot	--	640	640
Test Pile Steel HP12x53	Each	--	2	2
Name Plates	Each	1	--	1
Anchor Bolts, 1"	Each	--	24	24
Geocomposite Wall Drain	Sq Yd	--	60	60
Pipe Underdrains For Structures, 4"	Foot	--	134	134
Diamond Grinding (Bridge Section)	Sq Yd	436	--	436
Asbestos Bearing Pad Removal	Each	22	--	22

APPROVED  
For Structural Adequacy Only

*Ralph E. Anderson* (TSD)  
Engineer of Bridges & Structures

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	718.32	719.08

WATERWAY INFORMATION

Existing Low Grade Elevation: 726.53 @ Sta. 1208+00  
Existing Low Grade Elevation: 727.76 @ Sta. 1206+86  
Drainage Area = 8.64 sq. mi.

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	997	305	372	721.1	0.1	0.1	721.2	721.2	
Base	50	1561	345	436	722.1	0.2	0.1	722.3	722.2	
Overtopping	100	1803	357	456	722.4	0.2	0.2	722.6	722.6	
Max. Calc.	500	2387	381	497	723.0	0.6	0.5	723.6	723.5	

LOADING HS20-44

Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO

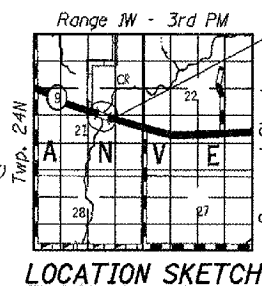
DESIGN STRESSES

FIELD UNITS

f<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (reinforcement)  
f<sub>y</sub> = 50,000 psi (M270 Grade 50W)

SEISMIC DATA

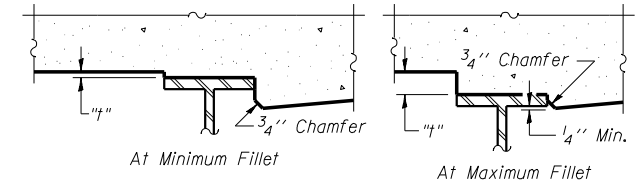
Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 0.045g  
Site Coefficient (S) = 1.0



GENERAL PLAN  
FAP 693 (IL 9) OVER  
WEST FORK SUGAR CREEK  
FAP ROUTE 693 SECTION 120B  
MCLEAN COUNTY  
STATION 1209+03.00  
STRUCTURE NO. 057-0242

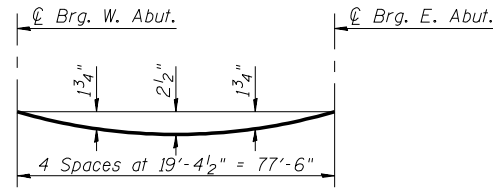
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



SHEET 2  
OF 12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	13
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 70518				



**DEAD LOAD DEFLECTION DIAGRAM**  
(Includes weight of concrete only.)

Note:  
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown below.

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding" shown below, minus the 8/4" slab thickness, equals the fillet heights "t" above top flange of beams. The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown below. For grinding the deck, see Special Provisions.

**FILLET HEIGHTS**

NOTE: Expected fillet height "t" varies from 1/2" (at Abuts.) to 3" (at midspan).

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	1208+63.00	-15.00	728.23	728.25
☉ Brg. W. Abut.	1208+64.25	-15.00	728.24	728.26
A	1208+74.25	-15.00	728.32	728.42
B	1208+84.25	-15.00	728.41	728.58
C	1208+94.25	-15.00	728.50	728.72
D	1209+04.25	-15.00	728.60	728.83
E	1209+14.25	-15.00	728.70	728.91
F	1209+24.25	-15.00	728.80	728.96
G	1209+34.25	-15.00	728.91	729.00
☉ Brg. E. Abut.	1209+41.75	-15.00	729.00	729.02
Bk. E. Abut.	1209+43.00	-15.00	729.02	729.04

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	1208+63.00	-9.00	728.33	728.35
☉ Brg. W. Abut.	1208+64.25	-9.00	728.34	728.36
A	1208+74.25	-9.00	728.43	728.53
B	1208+84.25	-9.00	728.51	728.68
C	1208+94.25	-9.00	728.61	728.82
D	1209+04.25	-9.00	728.70	728.93
E	1209+14.25	-9.00	728.80	729.01
F	1209+24.25	-9.00	728.91	729.07
G	1209+34.25	-9.00	729.02	729.10
☉ Brg. E. Abut.	1209+41.75	-9.00	729.11	729.13
Bk. E. Abut.	1209+43.00	-9.00	729.12	729.14

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	1208+63.00	-3.00	728.42	728.44
☉ Brg. W. Abut.	1208+64.25	-3.00	728.43	728.45
A	1208+74.25	-3.00	728.52	728.62
B	1208+84.25	-3.00	728.60	728.77
C	1208+94.25	-3.00	728.70	728.91
D	1209+04.25	-3.00	728.79	729.02
E	1209+14.25	-3.00	728.89	729.10
F	1209+24.25	-3.00	729.00	729.16
G	1209+34.25	-3.00	729.11	729.19
☉ Brg. E. Abut.	1209+41.75	-3.00	729.20	729.22
Bk. E. Abut.	1209+43.00	-3.00	729.21	729.23

**☉ RDWY. & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	1208+63.00	0.00	728.47	728.49
☉ Brg. W. Abut.	1208+64.25	0.00	728.48	728.50
A	1208+74.25	0.00	728.56	728.66
B	1208+84.25	0.00	728.65	728.82
C	1208+94.25	0.00	728.74	728.96
D	1209+04.25	0.00	728.84	729.07
E	1209+14.25	0.00	728.94	729.15
F	1209+24.25	0.00	729.04	729.20
G	1209+34.25	0.00	729.15	729.24
☉ Brg. E. Abut.	1209+41.75	0.00	729.24	729.26
Bk. E. Abut.	1209+43.00	0.00	729.26	729.28

**BEAM 4**

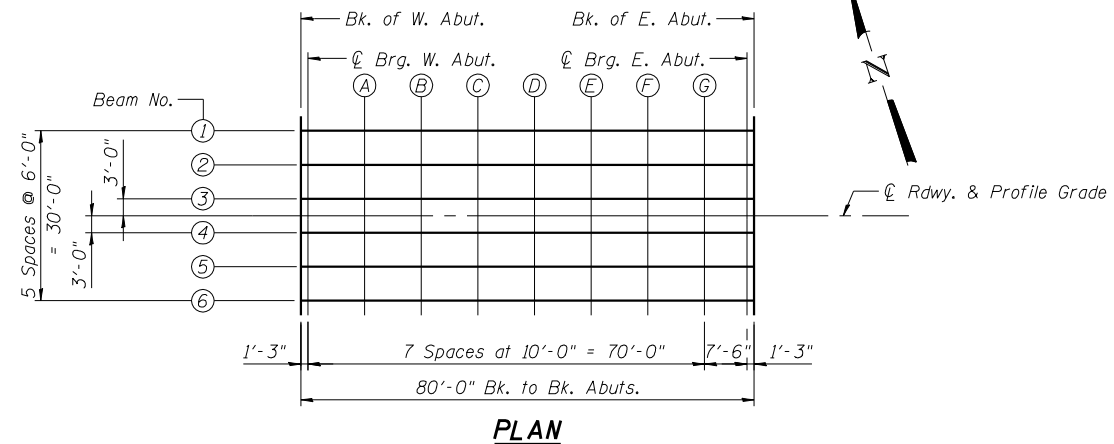
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	1208+63.00	3.00	728.42	728.44
☉ Brg. W. Abut.	1208+64.25	3.00	728.43	728.45
A	1208+74.25	3.00	728.52	728.62
B	1208+84.25	3.00	728.60	728.77
C	1208+94.25	3.00	728.70	728.91
D	1209+04.25	3.00	728.79	729.02
E	1209+14.25	3.00	728.89	729.10
F	1209+24.25	3.00	729.00	729.16
G	1209+34.25	3.00	729.11	729.19
☉ Brg. E. Abut.	1209+41.75	3.00	729.20	729.22
Bk. E. Abut.	1209+43.00	3.00	729.21	729.23

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	1208+63.00	9.00	728.33	728.35
☉ Brg. W. Abut.	1208+64.25	9.00	728.34	728.36
A	1208+74.25	9.00	728.43	728.53
B	1208+84.25	9.00	728.51	728.68
C	1208+94.25	9.00	728.61	728.82
D	1209+04.25	9.00	728.70	728.93
E	1209+14.25	9.00	728.80	729.01
F	1209+24.25	9.00	728.91	729.07
G	1209+34.25	9.00	729.02	729.10
☉ Brg. E. Abut.	1209+41.75	9.00	729.11	729.13
Bk. E. Abut.	1209+43.00	9.00	729.12	729.14

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. W. Abut.	1208+63.00	15.00	728.23	728.25
☉ Brg. W. Abut.	1208+64.25	15.00	728.24	728.26
A	1208+74.25	15.00	728.32	728.42
B	1208+84.25	15.00	728.41	728.58
C	1208+94.25	15.00	728.50	728.72
D	1209+04.25	15.00	728.60	728.83
E	1209+14.25	15.00	728.70	728.91
F	1209+24.25	15.00	728.80	728.96
G	1209+34.25	15.00	728.91	729.00
☉ Brg. E. Abut.	1209+41.75	15.00	729.00	729.02
Bk. E. Abut.	1209+43.00	15.00	729.02	729.04



**TOP OF SLAB ELEVATIONS**  
FAP 693 (IL 9) OVER  
WEST FORK SUGAR CREEK  
FAP ROUTE 693 SECTION 120B  
MCLEAN COUNTY  
STATION 1209+03.00  
STRUCTURE NO. 057-0242

**JD Johnson, Depp & Quisenberry**  
CONSULTING ENGINEERS  
Springfield, Illinois

DESIGNED: CDB	DRAWN: SJS
CHECKED: DCD	CHECKED: CDB/DCD

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET 3  
OF 12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	14
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 70518				

**NORTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
End W. Appr. Pvmt.	1208+33.00	-16.00	727.99	728.01
A1	1208+43.00	-16.00	728.06	728.08
B1	1208+53.00	-16.00	728.13	728.15
Bk. W. Abut.	1208+63.00	-16.00	728.21	728.23
Bk. E. Abut.	1209+43.00	-16.00	729.00	729.02
A2	1209+53.00	-16.00	729.11	729.13
B2	1209+63.00	-16.00	729.24	729.26
End E. Appr. Pvmt.	1209+73.00	-16.00	729.37	729.39

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
End W. Appr. Pvmt.	1208+33.00	-12.00	728.07	728.09
A1	1208+43.00	-12.00	728.14	728.16
B1	1208+53.00	-12.00	728.21	728.23
Bk. W. Abut.	1208+63.00	-12.00	728.29	728.31
Bk. E. Abut.	1209+43.00	-12.00	729.08	729.10
A2	1209+53.00	-12.00	729.19	729.21
B2	1209+63.00	-12.00	729.32	729.34
End E. Appr. Pvmt.	1209+73.00	-12.00	729.45	729.47

**RDWY. & PROFILE GRADE**

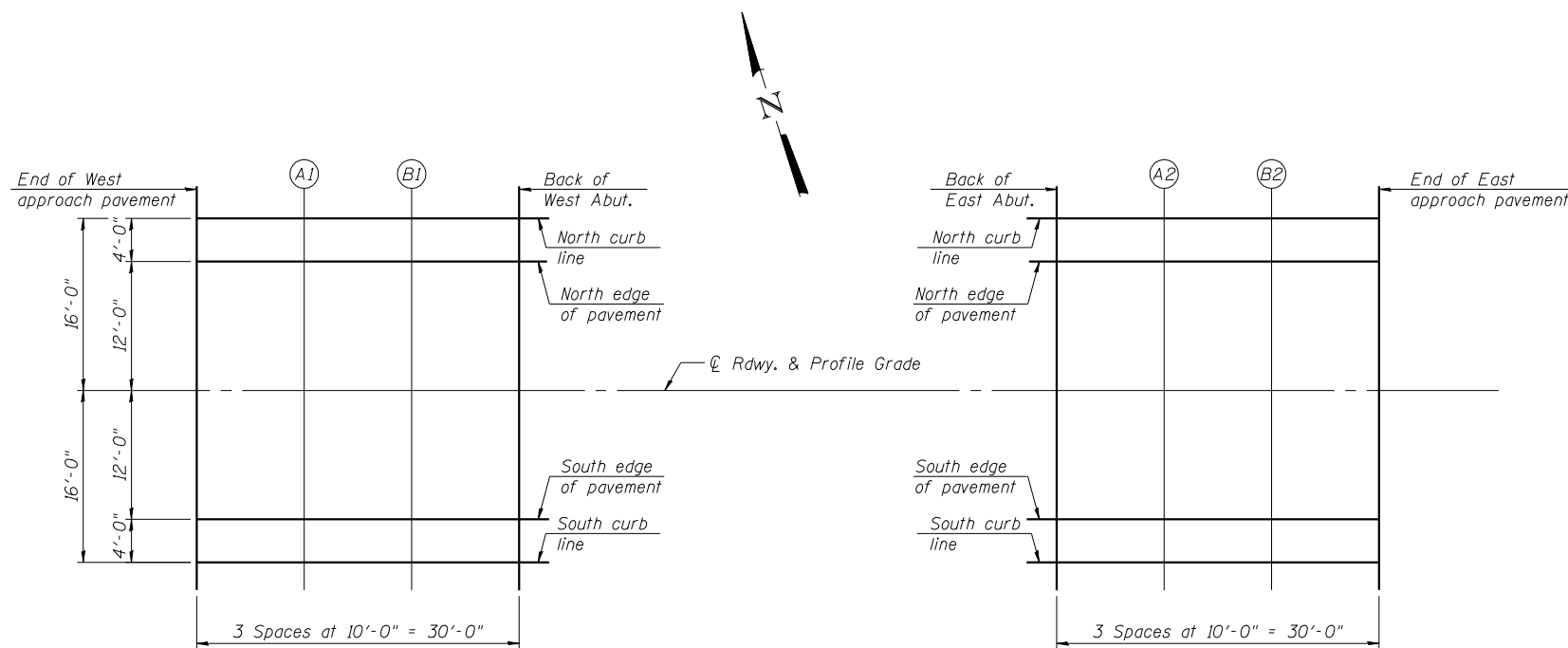
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
End W. Appr. Pvmt.	1208+33.00	0.00	728.25	728.27
A1	1208+43.00	0.00	728.32	728.34
B1	1208+53.00	0.00	728.39	728.41
Bk. W. Abut.	1208+63.00	0.00	728.47	728.49
Bk. E. Abut.	1209+43.00	0.00	729.26	729.28
A2	1209+53.00	0.00	729.37	729.39
B2	1209+63.00	0.00	729.50	729.52
End E. Appr. Pvmt.	1209+73.00	0.00	729.63	729.65

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
End W. Appr. Pvmt.	1208+33.00	12.00	728.07	728.09
A1	1208+43.00	12.00	728.14	728.16
B1	1208+53.00	12.00	728.21	728.23
Bk. W. Abut.	1208+63.00	12.00	728.29	728.31
Bk. E. Abut.	1209+43.00	12.00	729.08	729.10
A2	1209+53.00	12.00	729.19	729.21
B2	1209+63.00	12.00	729.32	729.34
End E. Appr. Pvmt.	1209+73.00	12.00	729.45	729.47

**SOUTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
End W. Appr. Pvmt.	1208+33.00	16.00	727.99	728.01
A1	1208+43.00	16.00	728.06	728.08
B1	1208+53.00	16.00	728.13	728.15
Bk. W. Abut.	1208+63.00	16.00	728.21	728.23
Bk. E. Abut.	1209+43.00	16.00	729.00	729.02
A2	1209+53.00	16.00	729.11	729.13
B2	1209+63.00	16.00	729.24	729.26
End E. Appr. Pvmt.	1209+73.00	16.00	729.37	729.39



**PLAN**

**TOP OF APPROACH  
SLAB ELEVATIONS  
FAP 693 (IL 9) OVER  
WEST FORK SUGAR CREEK  
FAP ROUTE 693 SECTION 120B  
MCLEAN COUNTY  
STATION 1209+03.00  
STRUCTURE NO. 057-0242**

**JD** Johnson, Depp & Quisenberry  
CONSULTING ENGINEERS  
Springfield, Illinois

DESIGNED: CDB	DRAWN: SJS
CHECKED: DCD	CHECKED: CDB/DCD

E-AS

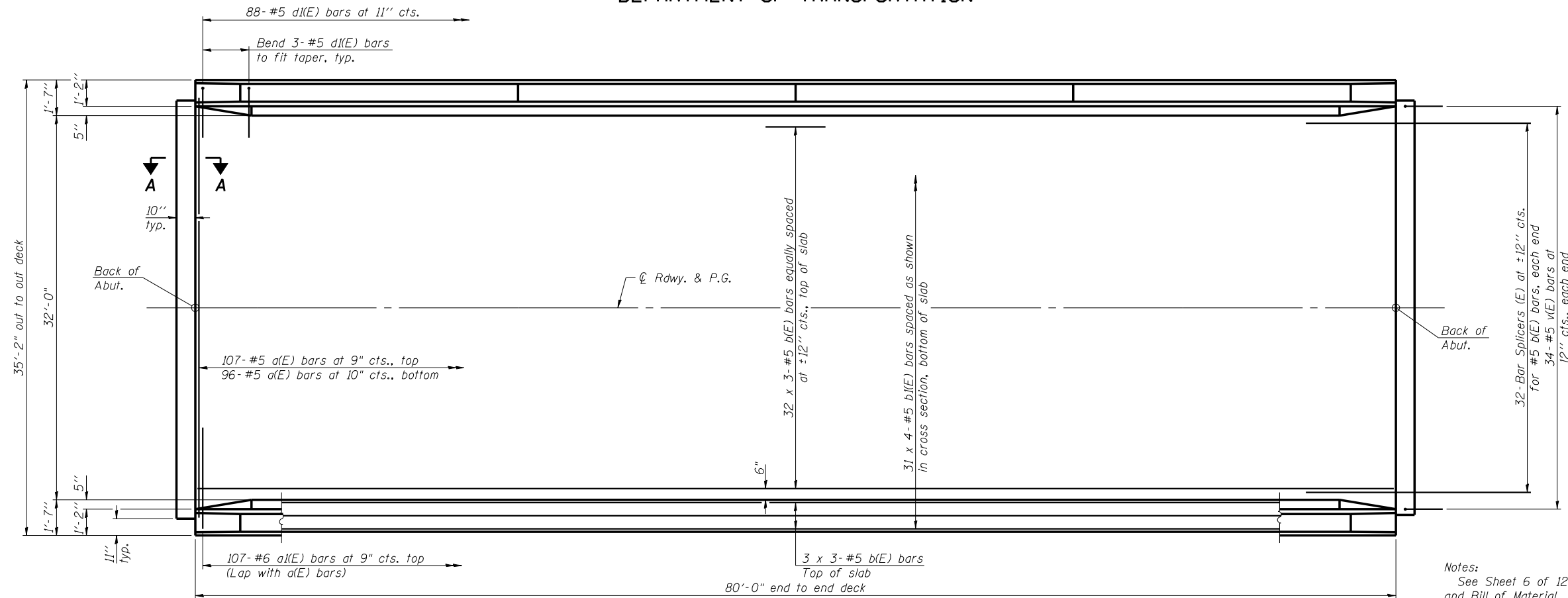
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET 4  
OF 12

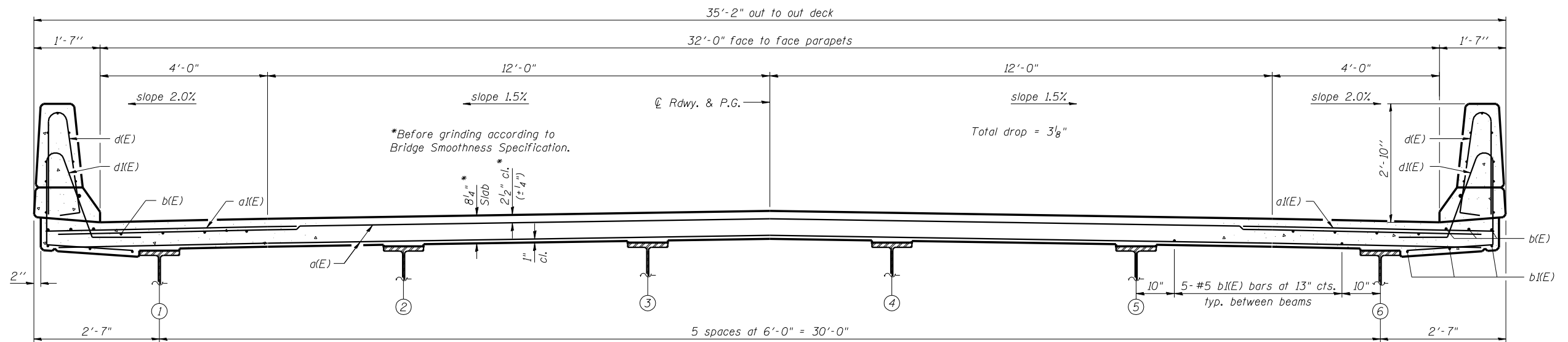
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	15
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 70518				



**MIN. BAR LAP**  
#5 Bar = 2'-2"

Notes:  
See Sheet 6 of 12 for superstructure details and Bill of Material.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
See Sheet 6 of 12 for parapet reinforcement.

**PLAN**



**CROSS SECTION**  
(Looking East)

**SUPERSTRUCTURE**  
FAP 693 (IL 9) OVER  
WEST FORK SUGAR CREEK  
FAP ROUTE 693 SECTION 120B  
MCLEAN COUNTY  
STATION 1209+03.00  
STRUCTURE NO. 057-0242

**JD** Johnson, Depp & Quisenberry  
CONSULTING ENGINEERS  
Springfield, Illinois

DESIGNED: CDB	DRAWN: SJS
CHECKED: DCD	CHECKED: CDB/DCD

SI-1-0

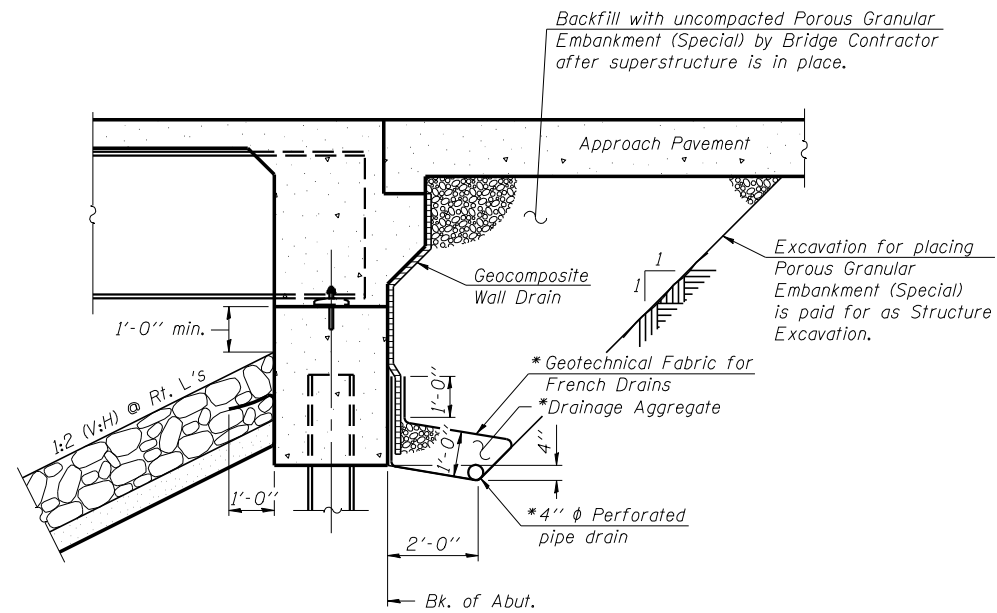
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET 5  
OF 12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	16
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 70518				

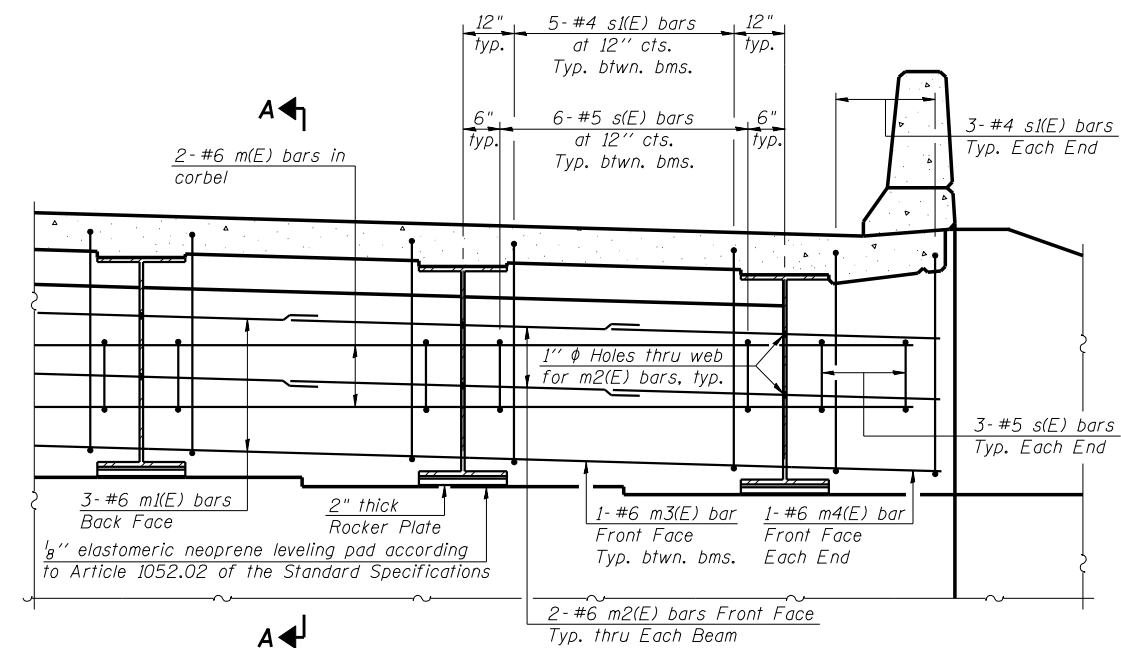


**SECTION THRU INTEGRAL ABUTMENT**  
(Horiz. dim. @ Rt. L's)

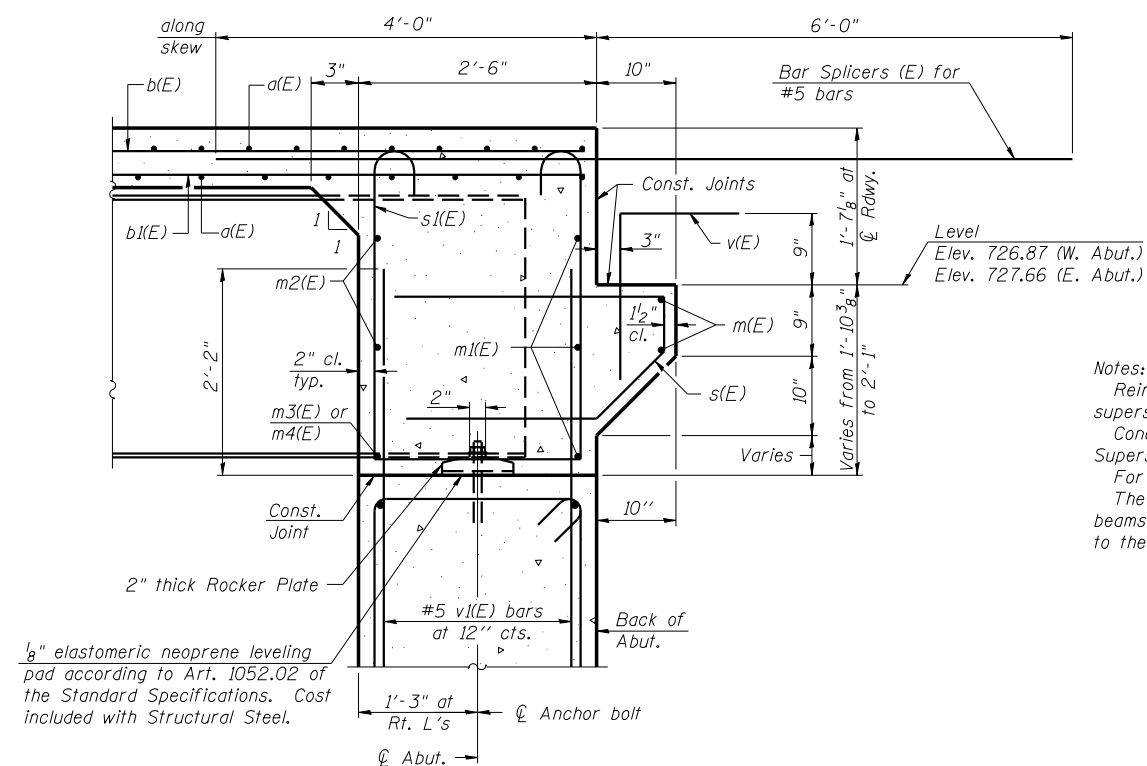
\* Included in the cost of Pipe Underdrains for Structures.

**Note:**

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 60110).



**DIAPHRAGM ELEVATION AT ABUTMENT**



**SECTION A-A**

Dimensions at right angles to abutment, except as shown.

**Notes:**

Reinforcement bars in diaphragm are billed with superstructure on sheet 6 of 12.  
Concrete in diaphragm is included with Concrete Superstructure on sheet 6 of 12.  
For details of bars s(E) & s(E) see sheet 6 of 12.  
The s(E) and s(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

**MIN. BAR LAP**

#6 bar = 2'-9"

**DIAPHRAGM DETAILS**  
FAP 693 (IL 9) OVER  
WEST FORK SUGAR CREEK  
FAP ROUTE 693 SECTION 120B  
MCLEAN COUNTY  
STATION 1209+03.00  
STRUCTURE NO. 057-0242



DESIGNED:	CDB	DRAWN:	SJS
CHECKED:	DCD	CHECKED:	CDB/DCD

SI-DSI

11-1-06

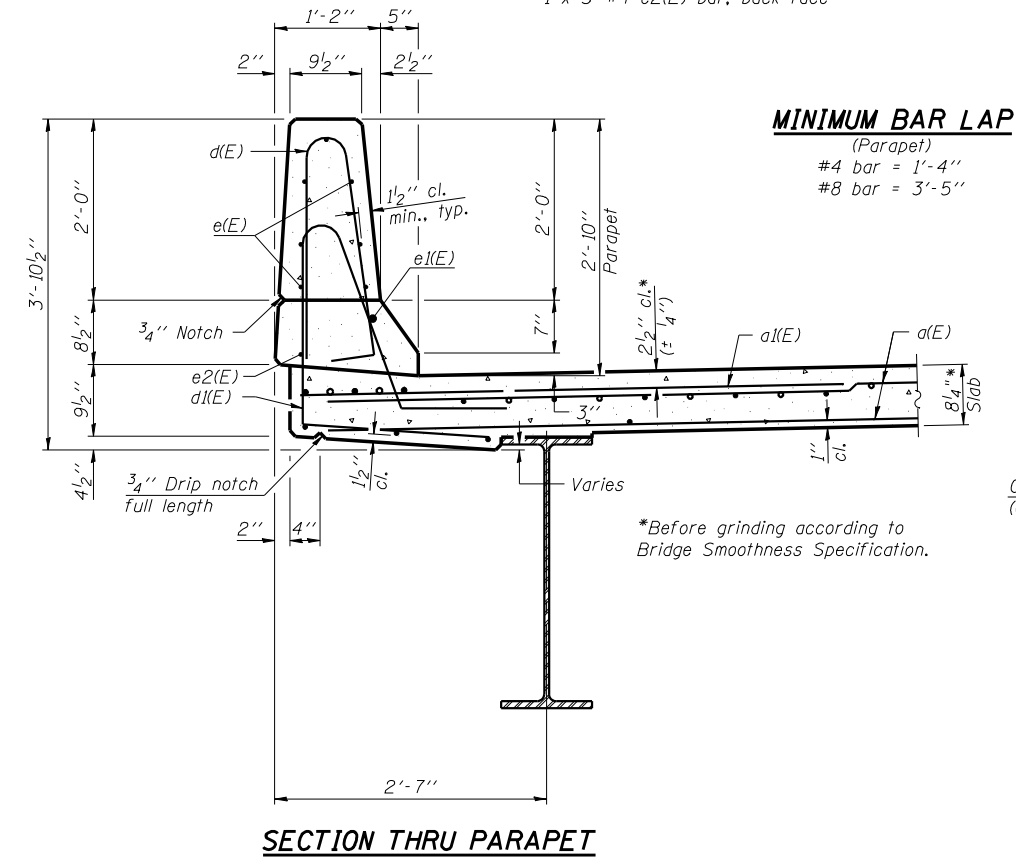
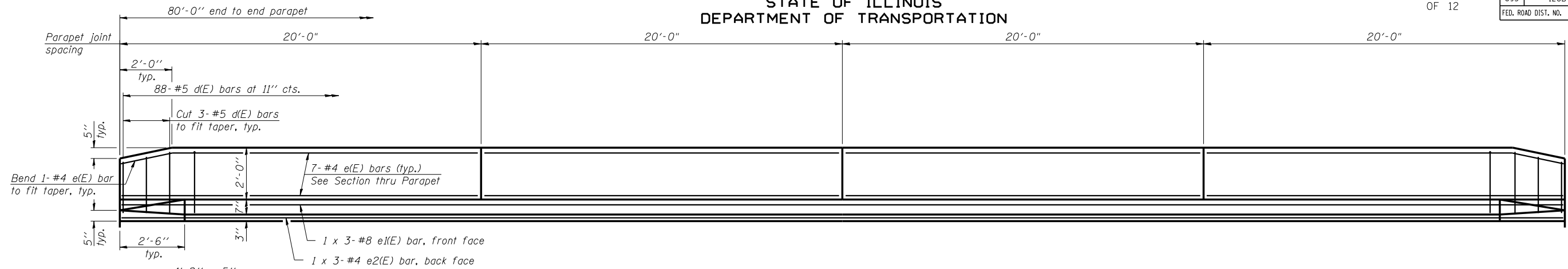
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

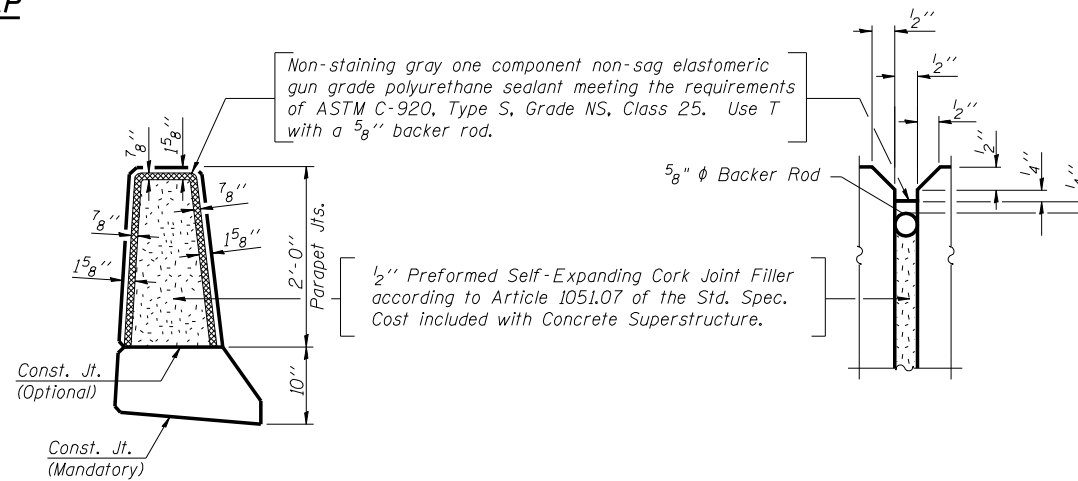
SHEET 6  
OF 12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	17
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 70518	

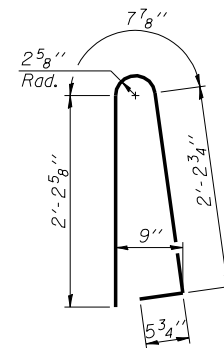


**MINIMUM BAR LAP**  
(Parapet)  
#4 bar = 1'-4"  
#8 bar = 3'-5"

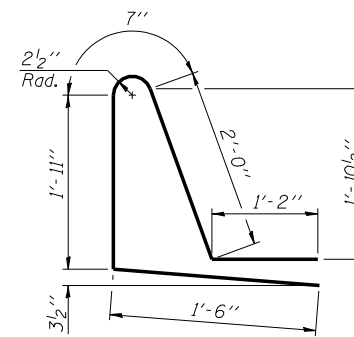
**INSIDE ELEVATION OF PARAPET**



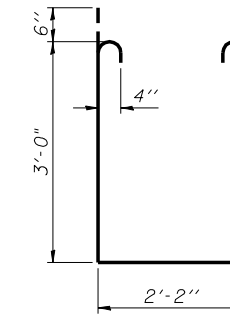
**PARAPET JOINT DETAILS**



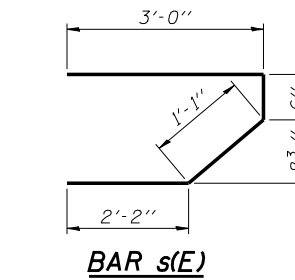
**BAR d(E)**



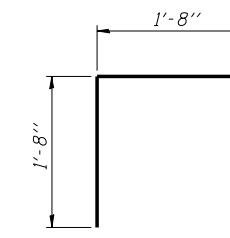
**BAR d1(E)**



**BAR s(E)**



**BAR s1(E)**



**BAR v(E)**

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	203	#5	34'-6"	—
a1(E)	214	#6	6'-0"	—
b(E)	114	#5	28'-0"	—
b1(E)	124	#5	21'-7"	—
d(E)	176	#5	5'-7"	U
d1(E)	176	#5	7'-2"	U
e(E)	56	#4	19'-8"	—
e1(E)	6	#8	28'-10"	—
e2(E)	6	#4	27'-6"	—
m(E)	4	#6	33'-0"	—
m1(E)	6	#6	34'-10"	—
m2(E)	24	#6	8'-9"	—
m3(E)	10	#6	5'-8"	—
m4(E)	4	#6	2'-3"	—
s(E)	72	#5	6'-9"	U
s1(E)	62	#4	9'-2"	U
v(E)	68	#5	3'-4"	U
Reinforcement Bars, Epoxy Coated		Pound	21060	
Concrete Superstructure		Cu. Yds.	112.3	

Bars indicated thus 1 x 3-#5 etc. indicates 1 line of bars with 3 lengths per line.

**SUPERSTRUCTURE DETAILS**  
FAP 693 (IL 9) OVER  
WEST FORK SUGAR CREEK  
FAP ROUTE 693 SECTION 120B  
MCLEAN COUNTY  
STATION 1209+03.00  
STRUCTURE NO. 057-0242

DESIGNED: CDB	DRAWN: SJS
CHECKED: DCD	CHECKED: CDB/DCD

S-I-D

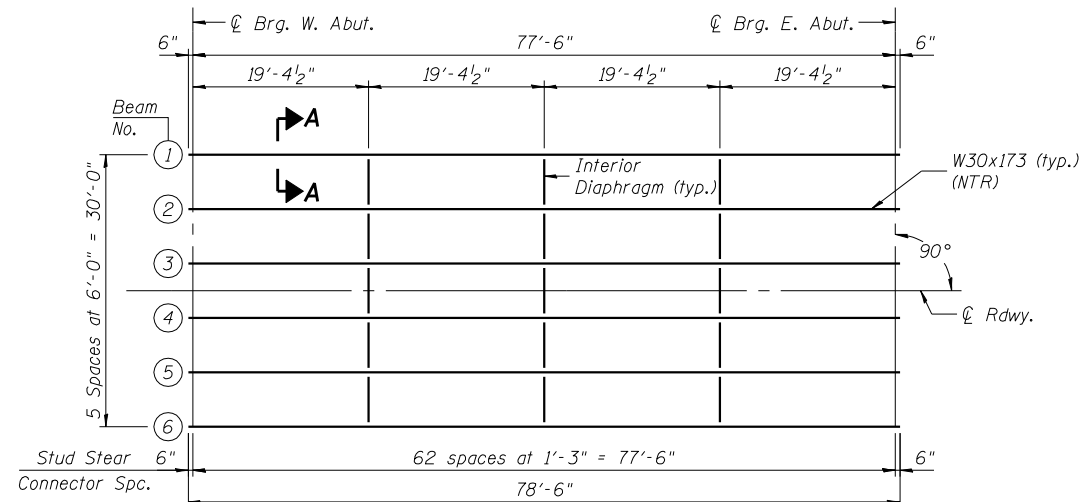
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET 7  
OF 12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	18
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
CONTRACT NO. 70518				



FRAMING PLAN

TOP OF BEAM ELEVATIONS\*

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
℄ Brg. W. Abut.	727.53	727.63	727.72	727.72	727.63	727.53
℄ Brg. E. Abut.	728.29	728.40	728.49	728.49	728.40	728.29

\* For Fabrication only. (Theoretical elevations before dead load deflection.)

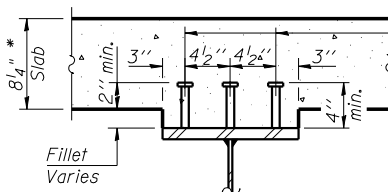
INTERIOR GIRDER MOMENT TABLE		
0.5 Span		
$I_s$	(in <sup>4</sup> )	8230
$I_c(n)$	(in <sup>4</sup> )	21880
$I_c(3n)$	(in <sup>4</sup> )	15590
$S_s$	(in <sup>3</sup> )	541
$S_c(n)$	(in <sup>3</sup> )	792
$S_c(3n)$	(in <sup>3</sup> )	710
$Z$	(in <sup>3</sup> )	- -
$\rho$	(k/')	0.833
$M\rho$	(k)	625
$s\rho$	(k/')	0.417
$M_s\rho$	(k)	313
$M\ddagger$	(k)	608
$M_{imp}$	(k)	150
$^{5/3}[M\ddagger + M_{imp}]$	(k)	1264
$M_o$	(k)	2863
$M_u$	(k)	3347
$f_s \rho$ non-comp	(ksi)	13.9
$f_s \rho$ (comp)	(ksi)	5.3
$f_s ^{5/3}[M\ddagger + M_{imp}]$	(ksi)	19.2
$f_s$ (Overload)	(ksi)	38.3
$f_s$ (Total)	(ksi)	- -
VR	(k)	43.0

INTERIOR GIRDER REACTION TABLE		
Abut.		
$R\rho$	(k)	50.0
$R\ddagger$	(k)	34.5
Imp.	(k)	8.5
$R_{Total}$	(k)	93.0

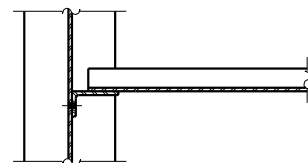
\* Compact section

- $I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total and Overload) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total and Overload) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total and Overload) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).
- $Z$ : Plastic Section Modulus of the steel section in non-composite areas (in<sup>3</sup>).
- $\rho$ : Un-factored non-composite dead load (kips/ft.).
- $M\rho$ : Un-factored moment due to non-composite dead load (kip-ft.).
- $s\rho$ : Un-factored long-term composite (superimposed) dead load (kips/ft.).
- $M_s\rho$ : Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
- $M\ddagger$ : Un-factored live load moment (kip-ft.).
- $M_{imp}$ : Un-factored moment due to impact (kip-ft.).
- $M_o$ : Factored design moment (kip-ft.).
- $1.3 [M\rho + M_s\rho + \frac{5}{3}(M\ddagger + M_{imp})]$
- $M_u$ : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).
- $f_s$  (Overload): Sum of stresses as computed from the moments below (ksi).
- $f_s$  (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
- $1.3 [M\rho + M_s\rho + \frac{5}{3}(M\ddagger + M_{imp})]$
- VR: Maximum  $\ddagger$  + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

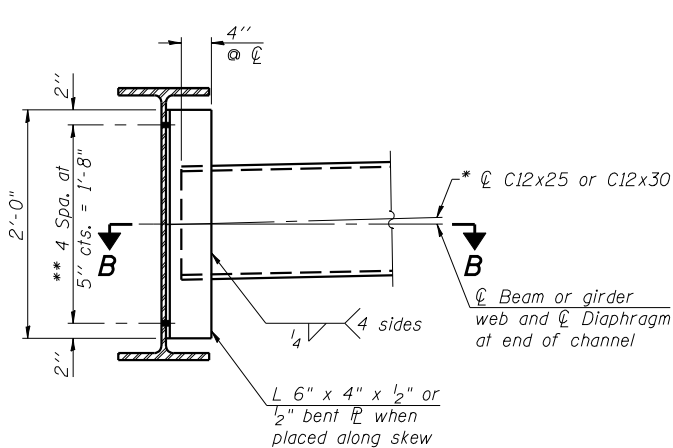
\*Before grinding according to Bridge Smoothness Specification.



SECTION A-A



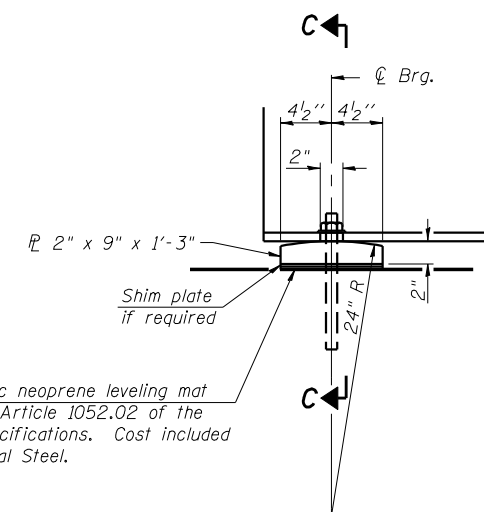
SECTION B-B



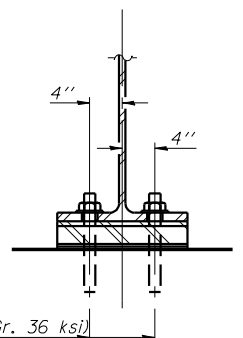
INTERIOR DIAPHRAGM

Note:  
Two hardened washers required for each set of oversized holes.

- \* Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
- \*\* 3/4"  $\phi$  HS bolts, 15/16"  $\phi$  holes



ELEVATION AT ABUTMENT



SECTION C-C

FIXED BEARING

- Notes:
- All structural steel shall be AASHTO M270 Gr. 50W.
  - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
  - All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

STRUCTURAL STEEL & FRAMING PLAN

FAP 693 (IL 9) OVER  
WEST FORK SUGAR CREEK  
FAP ROUTE 693 SECTION 120B  
MCLEAN COUNTY  
STATION 1209+03.00  
STRUCTURE NO. 057-0242

**JD Johnson, Depp & Quisenberry**  
CONSULTING ENGINEERS  
Springfield, Illinois

DESIGNED: CDB	DRAWN: SJS
CHECKED: DCD	CHECKED: CDB/DCD

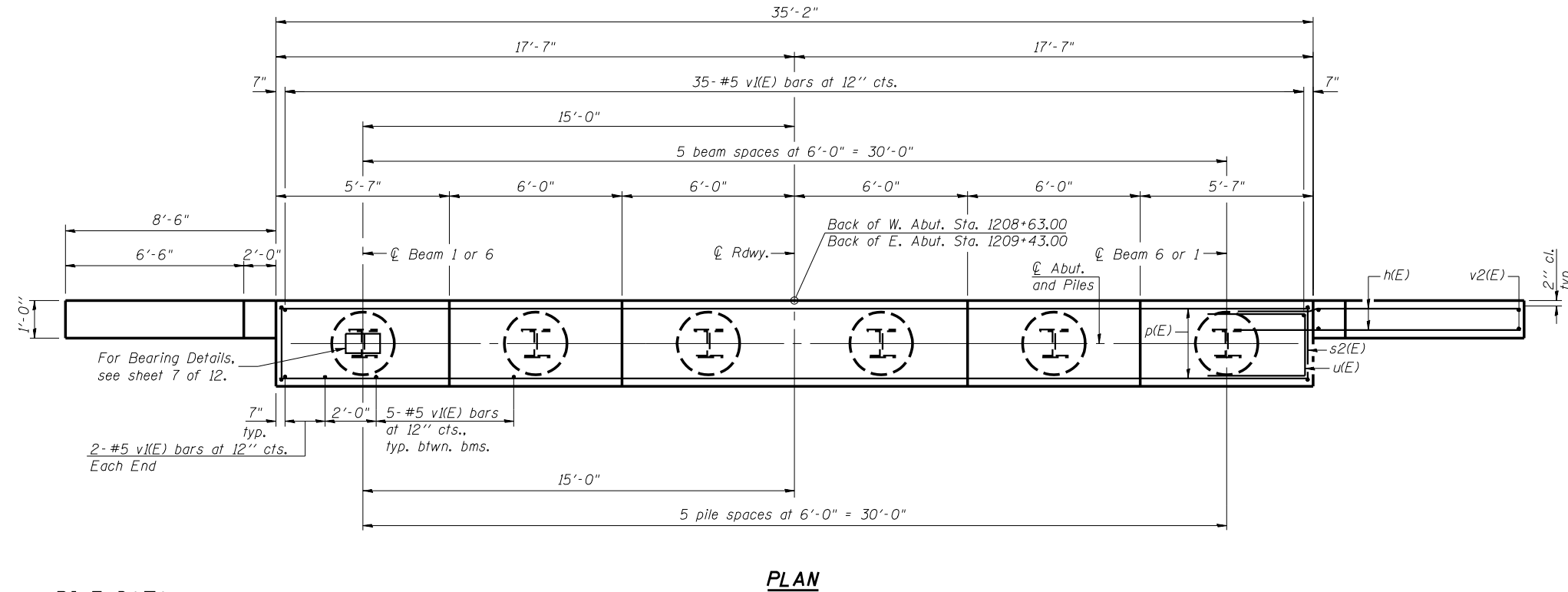
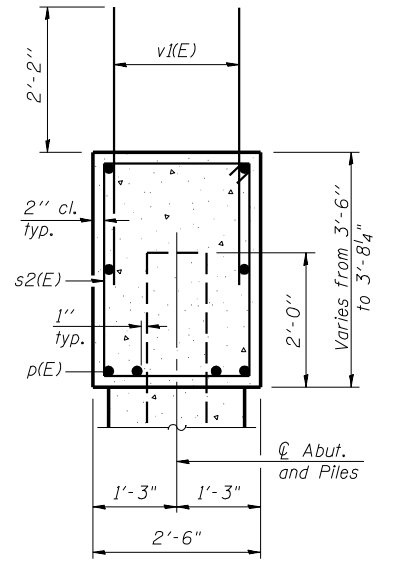
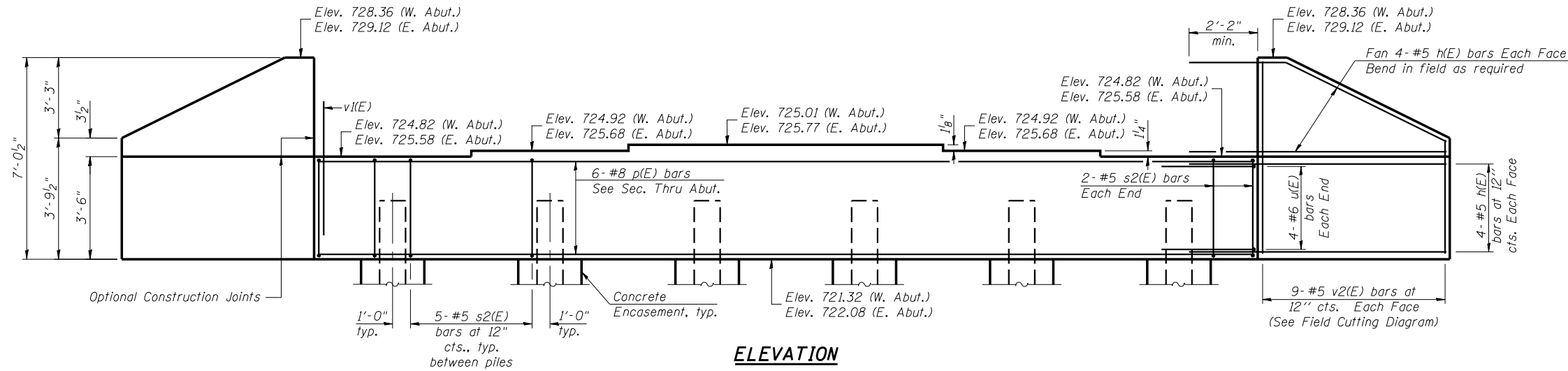
DATE: 8/13/2007 - \$TIME\$ FILE: \$FILE\$ USER: collierbw

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET 8  
OF 12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	19
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 70518	

Notes: Pour steps monolithically with cap.



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	32	#5	10'-6"	—
p(E)	6	#8	34'-10"	—
s2(E)	29	#5	11'-8"	□
u(E)	8	#6	7'-2"	—
v(E)	64	#5	4'-4"	—
v2(E)	18	#5	10'-2"	—
Structure Excavation		Cu. Yd.	279	W. Abut.
			415	E. Abut.
Concrete Structures		Cu. Yd.	15.4	
Reinforcement Bars, Epoxy Coated		Pound	1830	
Furnishing Steel Piles HP12x53		Foot	320	
Driving Piles		Foot	320	
Test Pile Steel HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.1	

Bill of Material for 1 Abutment only, except as noted. For details of piles and Concrete Encasement, see sheet 9 of 12.

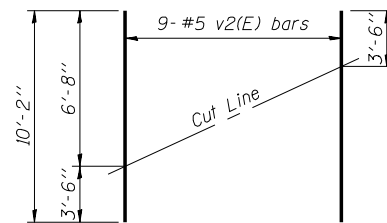
**PILE DATA**

Type: Steel-HP 12x53  
Nominal Required Bearing: 336 kips  
Allowable Resistance Available: 112 kips  
Est. Length: 64'  
No. Production Piles: 5 (each Abut.)  
No. Test Piles: 1 (each Abut.)

<b>JD Johnson, Depp &amp; Quisenberry</b> CONSULTING ENGINEERS Springfield, Illinois	
DESIGNED: CDB	DRAWN: SJS
CHECKED: DCD	CHECKED: CDB/DCD

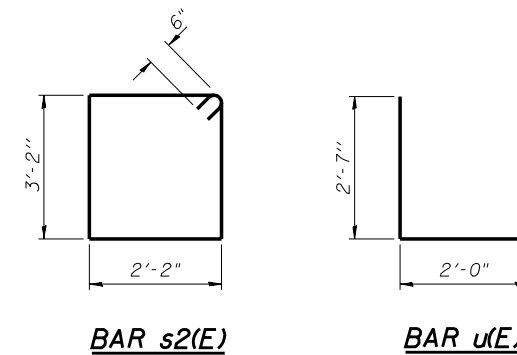
AI-0

11-1-06



**FIELD CUTTING DIAGRAM**

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



**BAR s2(E)**

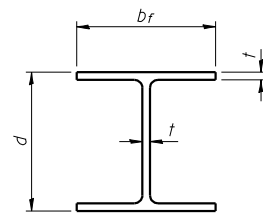
**BAR u(E)**

FILE: \$FILE\$  
USER: collierbw  
DATE: 8/13/2007 - \$TIME\$

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

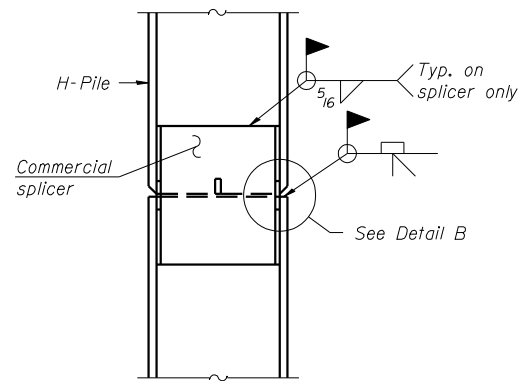
SHEET 9  
OF 12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	20
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 70518				

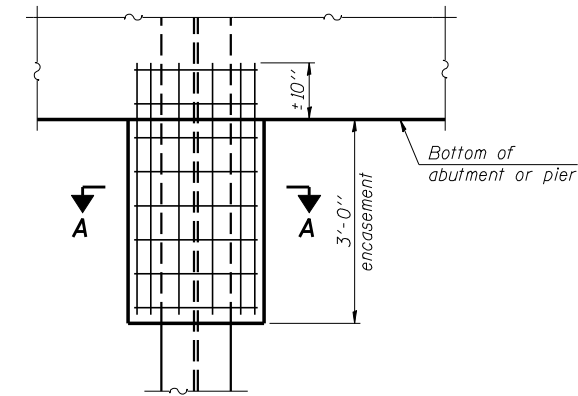


STEEL PILE TABLE

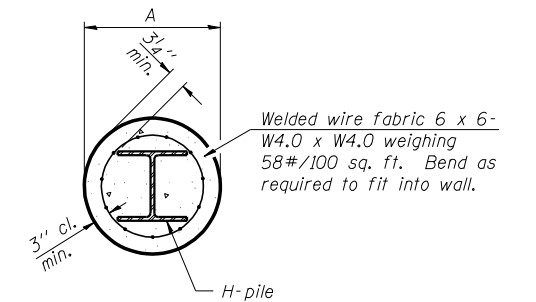
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION



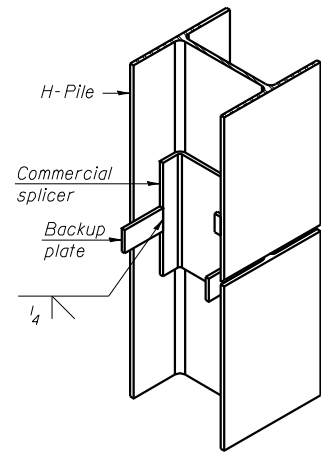
ELEVATION



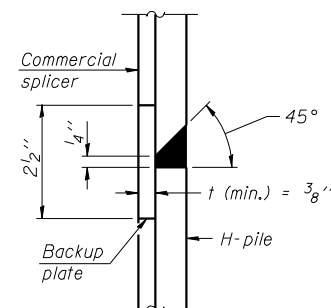
SECTION A-A

Note:  
Forms for encasement may be omitted when soil conditions permit.

PILE ENCASEMENT

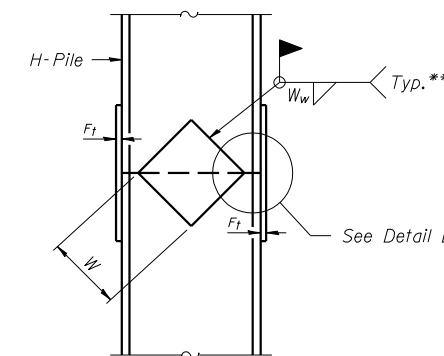


ISOMETRIC VIEW

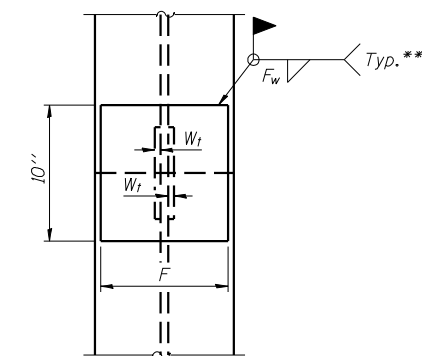


DETAIL "B"

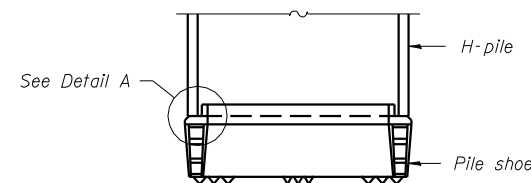
WELDED COMMERCIAL SPLICE



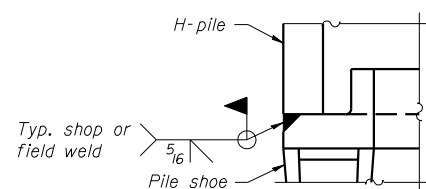
ELEVATION



END VIEW

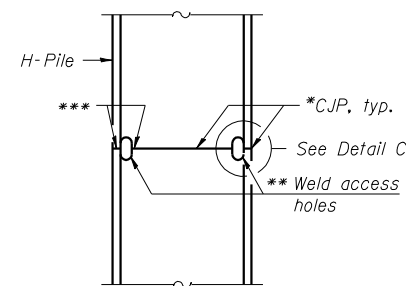


ELEVATION

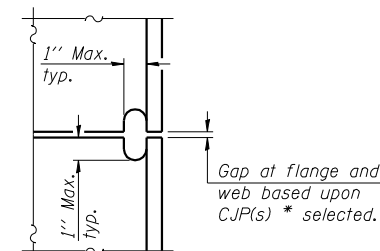


DETAIL A

H-PILE SHOE ATTACHMENT

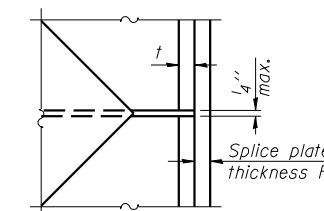


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5 8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5 8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5 8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

PILES

FAP 693 (IL 9) OVER  
WEST FORK SUGAR CREEK  
FAP ROUTE 693 SECTION 120B  
MCLEAN COUNTY  
STATION 1209+03.00  
STRUCTURE NO. 057-0242

Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.

- \* Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
- \*\* Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
- \*\*\* Interrupt welds 1/4" from end of each pile.

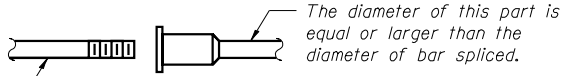
**JD** Johnson, Depp & Quisenberry  
CONSULTING ENGINEERS  
Springfield, Illinois

DESIGNED: CDB	DRAWN: SJS
CHECKED: DCD	CHECKED: CDB/DCD

F-HP 11-1-06

FILE: \$FILE\$  
USER: collierbw  
DATE: 8/13/2007 - \$TIME\$

The diameter of this part is the same as the diameter of the bar spliced.



**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

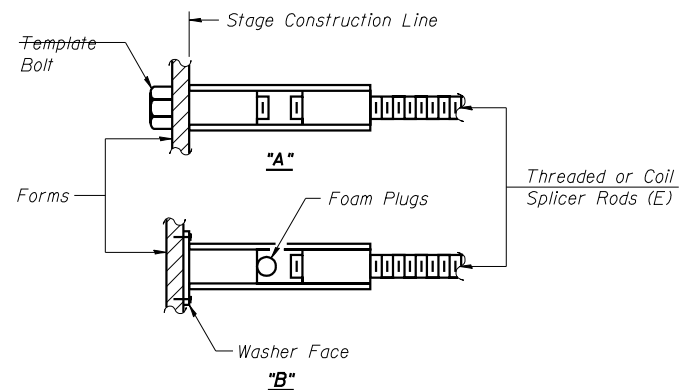
Wire Connector



**WELDED SECTIONS**

**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\* Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



**INSTALLATION AND SETTING METHODS**

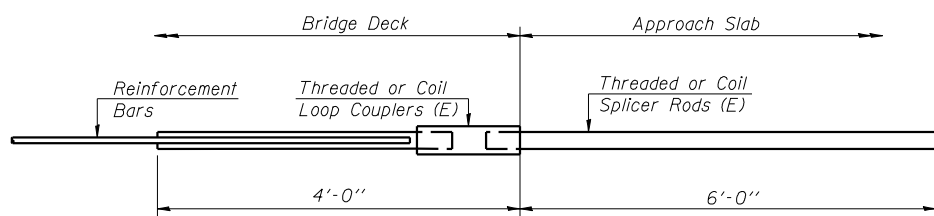
"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

**NOTES**

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

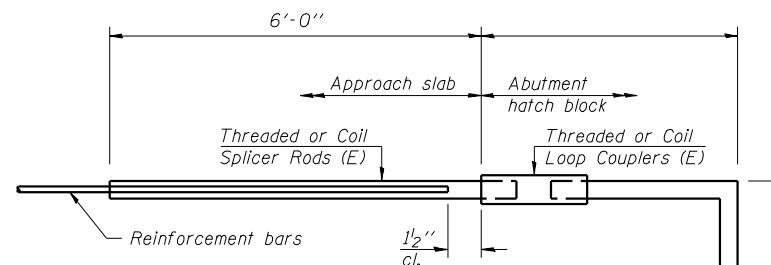
- ① Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_t$
  - ② Minimum \*Pull-out Strength (Tension in kips) =  $0.66 \times f_y \times A_t$
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



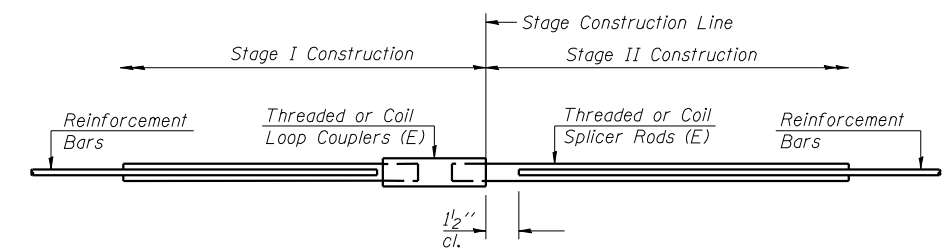
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 12.3 kips - tension	
No. Required = 64	



**FOR STUB ABUTMENTS**

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 12.3 kips - tension	
No. Required =	



**STANDARD**

Bar Size	No. Assemblies Required	Location

**BAR SPLICER ASSEMBLY DETAILS**

FAP 693 (IL 9) OVER  
WEST FORK SUGAR CREEK  
FAP ROUTE 693 SECTION 120B  
MCLEAN COUNTY  
STATION 1209+03.00  
STRUCTURE NO. 057-0242

**JD** Johnson, Depp & Quisenberry  
CONSULTING ENGINEERS  
Springfield, Illinois

DESIGNED: CDB      DRAWN: SJS  
CHECKED: DCD      CHECKED: CDB/DCD

BSD-1

11-1-06

DATE: 8/13/2007 - \$TIME\$ FILE: \$FILE\$ USER: collier/bw



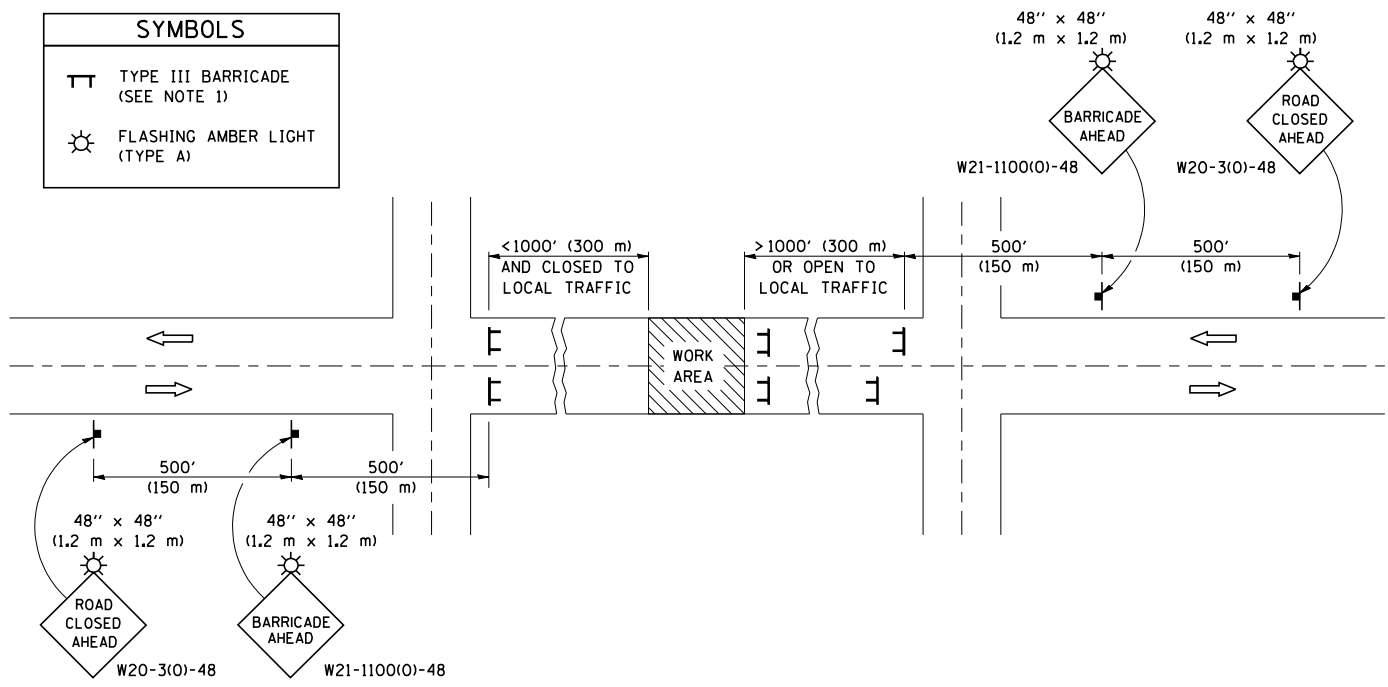


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	24

# ROAD CLOSURE

# SIDEROAD / STREET CLOSURE

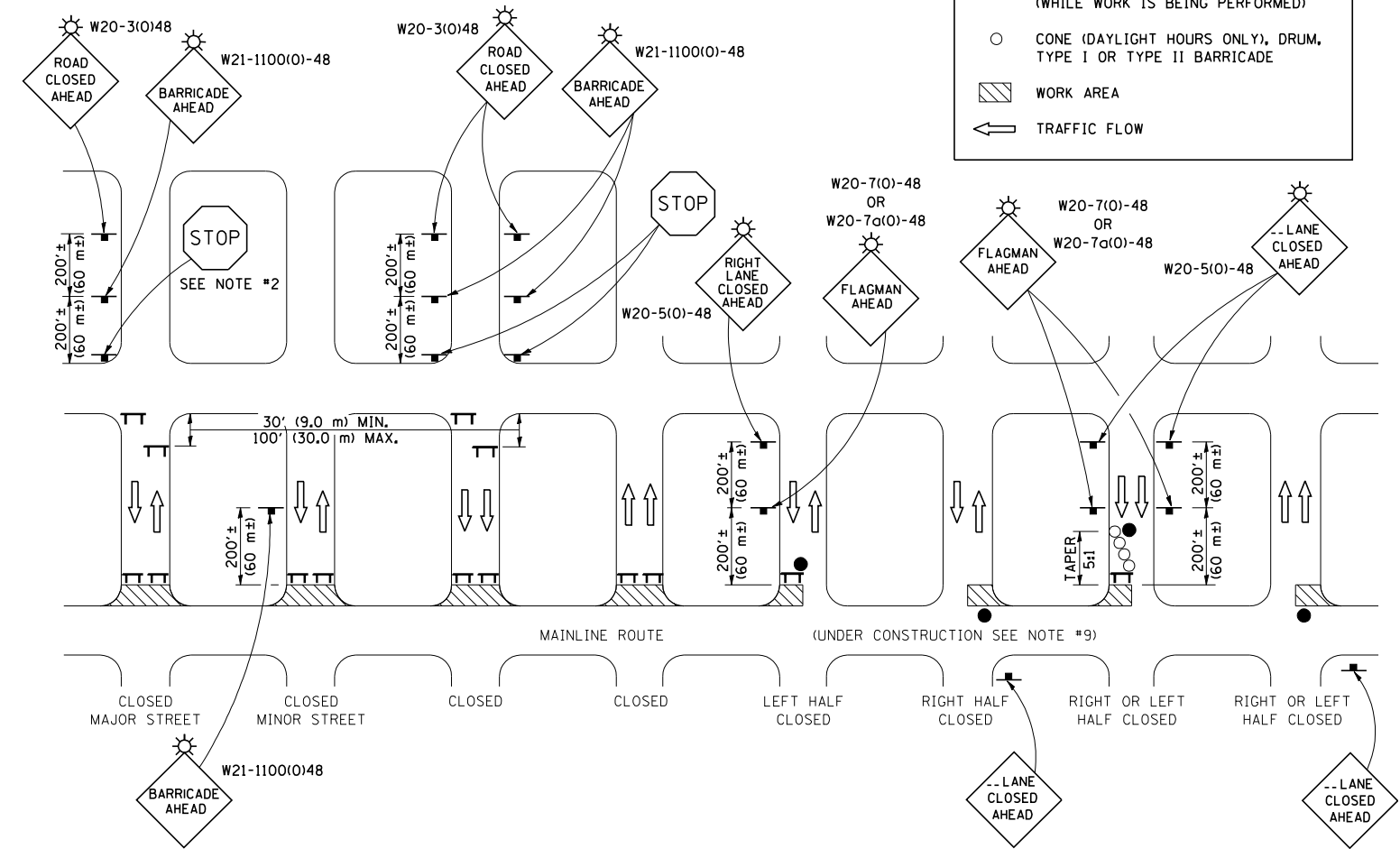
SYMBOLS	
	TYPE III BARRICADE (SEE NOTE 1)
	FLASHING AMBER LIGHT (TYPE A)



### GENERAL NOTES

- TYPE III BARRICADES SHALL BE AS SHOWN ON STANDARD 702001 "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD". EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
- IF THE ROAD IS OPEN TO LOCAL TRAFFIC OR EXCEEDS 1000' (300 m), ANOTHER SET OF TYPE III BARRICADES, EQUIPPED AS IN NOTE 1 ABOVE, SHALL BE PLACED AT EACH END OF THE WORK AREA.
- WHEN A STOP CONDITION EXISTS, NO SIGNS ARE REQUIRED IN ADVANCE OF THE "STOP" SIGN WHEN THE ROAD IS CLOSED WITHIN 100' (30 m) OF THE INTERSECTION.
- STANDARD 702001 SHALL APPLY FOR THE PLACEMENT & DESIGN OF TYPE III BARRICADES.
- IF A TYPE III BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 IS NOT AVAILABLE, THE SIGNS MAY BE MOUNTED ON AN NCHRP 350 TEMPORARY SIGN SUPPORT DIRECTLY IN FRONT OF THE BARRICADE.
- REFLECTORIZED STRIPING SHALL APPEAR ON BOTH SIDES OF THE TYPE III BARRICADES IF ROAD IS OPEN TO LOCAL TRAFFIC.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- A MINIMUM OF TWO FLASHING LIGHTS SHALL BE USED AT NIGHT ON EACH APPROACH IN ADVANCE OF THE WORK AREA. FLASHING LIGHTS SHALL BE INSTALLED ABOVE THE FIRST TWO SIGNS IN THE SERIES.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
- FORMS BT. 725 AND BT. 726 ARE REQUIRED.
- WHEN A SIDEROAD INTERSECTS THE HIGHWAY ON WHICH WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC DEVICES SHALL BE ERECTED AND PROVIDED AS DIRECTED BY THE ENGINEER.
- AN ADDITIONAL SIGN MAY BE REQUIRED AT A MAJOR INTERSECTING ROAD IN ADVANCE OF THE CLOSURE. THE ADDITIONAL SIGN SHALL GIVE THE DISTANCE TO THE BARRICADE IN MILES OR FRACTIONS OF A MILE.

SYMBOLS	
	TYPE III BARRICADE (SEE NOTE)
	FLASHING LIGHT
	FLAGGER WITH TRAFFIC CONTROL SIGN (WHILE WORK IS BEING PERFORMED)
	CONE (DAYLIGHT HOURS ONLY), DRUM, TYPE I OR TYPE II BARRICADE
	WORK AREA
	TRAFFIC FLOW



### GENERAL NOTES

- TYPE III BARRICADES SHALL BE AS SHOWN ON "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD". EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
- WHERE A STOP CONDITION EXISTS, AS SHOWN ABOVE, WARNING SIGNS MAY BE OMITTED IN ADVANCE OF THE "STOP" SIGN.
- STANDARD 702001 SHALL APPLY FOR THE PLACEMENT & MANUFACTURE OF TYPE III BARRICADES.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- ONE FLASHING LIGHT IS REQUIRED ABOVE EACH ADVANCE WARNING SIGN DURING HOURS OF DARKNESS.
- LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
- FORMS BT 725 AND BT 726 ARE REQUIRED.
- THE MAINLINE ROUTE TEMPORARY TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS.
- THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS INVOLVING THE RECONSTRUCTION OF ALL APPLICABLE SIDE STREETS AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DATE	REVISIONS	NAME
08/07	TITLE CHANGE	KAG
11/06	REPLACED DETAILS F-5.03 & F-5.04	TJB

ILLINOIS DEPARTMENT OF TRANSPORTATION

## TRAFFIC CONTROL & PROTECTION DEVICES

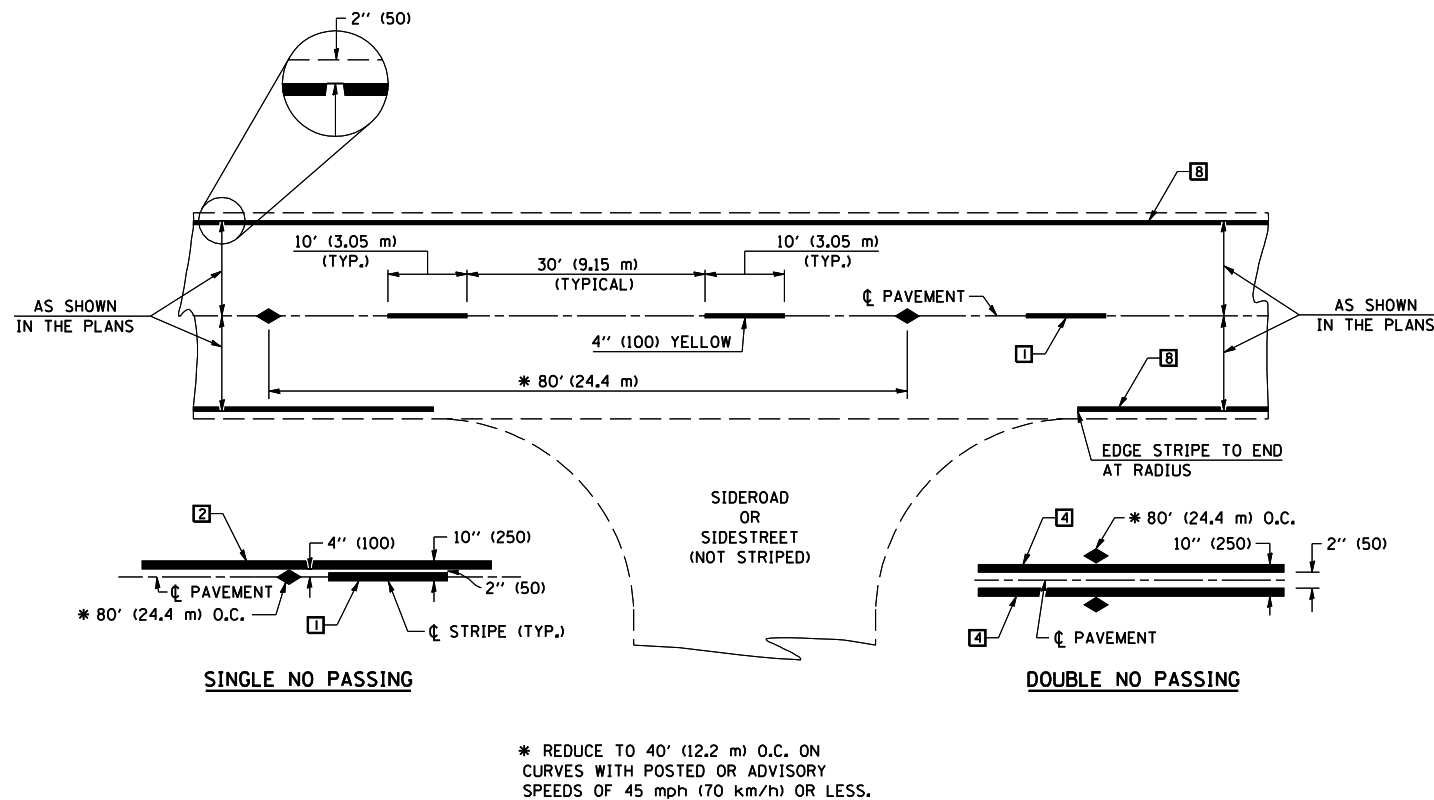
(ROAD & SIDEROAD/STREET CLOSURES)

### DISTRICT 5 DETAIL NO. 7020000

PLOT DATE = 8/17/2007  
 FILE NAME = c:\projects\503806\1087\roadway\plans\top rd ctad detail.dgn  
 PLOT SCALE = 42.3525' / IN.  
 USER NAME = collierb



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	25



**TWO LANE/TWO WAY**

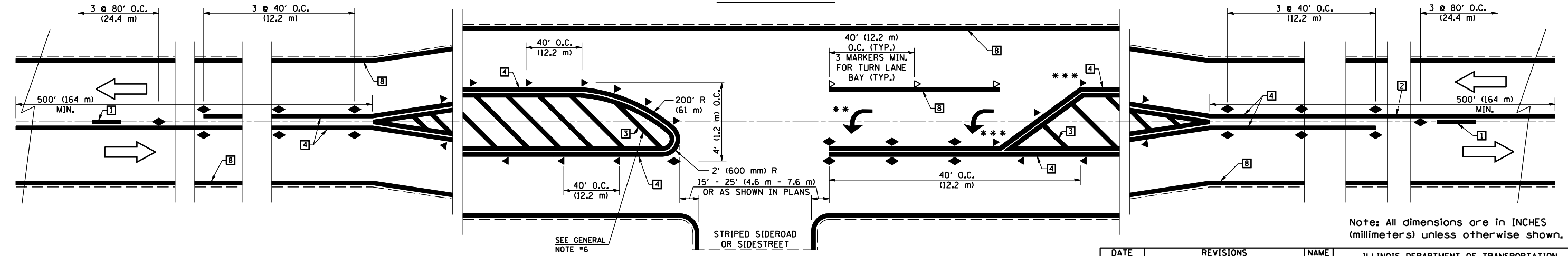
**TYPICAL PAVEMENT MARKING LEGEND**

- 1 4" (100) SKIP-DASH (YELLOW)
- 2 4" (100) SOLID (YELLOW)
- 3 12" (300) DIAGONAL (YELLOW)
- 4 4" (100) DOUBLE YELLOW (NARROW)
- 5 RESERVED
- 6 RESERVED
- 7 4" (100) SKIP-DASH (WHITE)
- 8 4" (100) SOLID (WHITE)
- 9 12" (300) DIAGONAL (WHITE)
- 10 6" (150) SOLID (WHITE)
- 11 24" (600) STOP BAR (WHITE)
- 12 8" (200) SOLID (WHITE)
- 13 4" (100) LANE LINE EXTENSIONS (WHITE)
- 14 4" (100) PARKING WHITE

**TYPICAL PAVEMENT MARKERS LEGEND**

- ◆ TWO-WAY AMBER MARKER
- ▶ ONE-WAY AMBER MARKER
- ▷ ONE-WAY CRYSTAL MARKER

**RURAL LEFT TURN**



Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

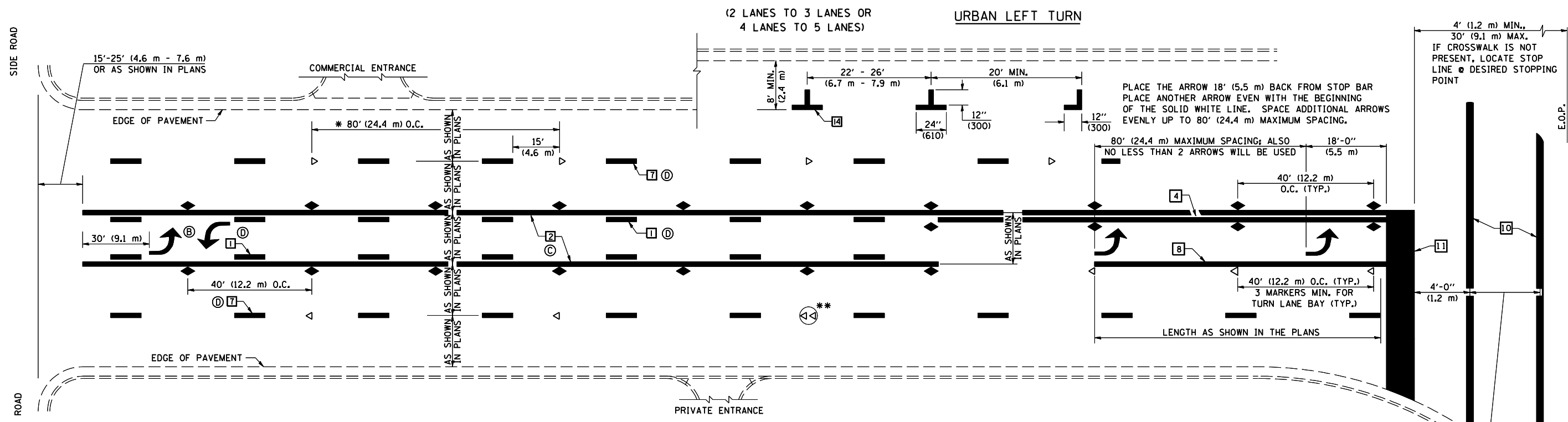
\*\*\* REDUCE SPACING IF NECESSARY TO ASSURE MARKERS AT CORNER POINTS.  
 \*\* TURN ARROWS SHALL BE PLACED AS SHOWN ON SHEET #2.

DATE	REVISIONS	NAME
11/06	REPLACED DETAIL F-5.25	TJB

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)**  
**DISTRICT 5 DETAIL NO. 7800AAAA**

PLOT DATE = 8/13/2007  
 FILE NAME = c:\projects\6893886\1810.87\roadway\plans\detaila.dgn  
 PLOT SCALE = 42.3525 / IN.  
 USER NAME = collierb

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	26

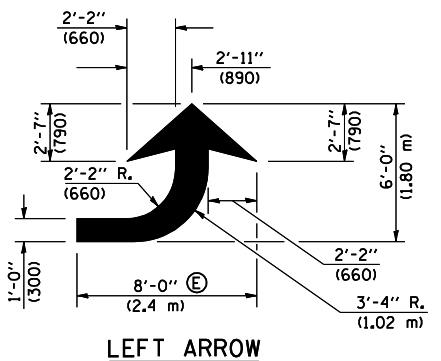


\* REDUCE TO 40 FEET (12.2 METERS) ON CENTER ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.

\*\* DOUBLE LANE LINE MARKERS SHALL BE SPECIFIED AND SPACED AS SHOWN IN HIGHWAY STANDARD 781001 FOR MULTI-LANE DIVIDED AND UNDIVIDED HIGHWAYS.

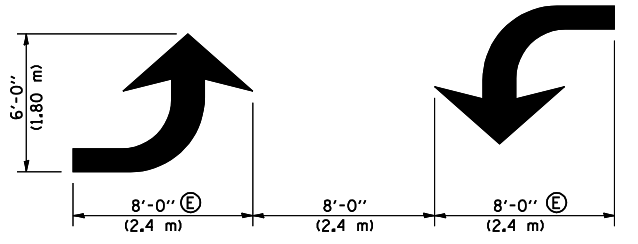
**NOTES:**

- Ⓑ TURN ARROW PAIRS SHALL BE PLACED AT 250' (75 m) INTERVALS AND SHALL BE EVENLY SPACED BETWEEN BOTH ENDS OF THE BIDIRECTIONAL LEFT TURN LANE.
- Ⓒ THE SOLID YELLOW PAVEMENT MARKINGS [2] SHOULD GENERALLY START OR END NEAR THE RADIUS POINT OF EACH STREET RETURN EXCEPT WHERE ONE OR BOTH ENDS WOULD INCLUDE STOP BARS.
- Ⓓ THE SKIP-DASH PAVEMENT MARKINGS [1] OR [7] SHOULD BE CENTERED BETWEEN BOTH ENDS OF EACH CITY BLOCK AND SHALL BE PLACED SO THEY LINE UP ACROSS FROM EACH OTHER. SEE EXAMPLE ON SHEET 2 OF 3.
- Ⓔ TURN ARROW SIZE DEPENDS ON THE LOCATION. RURAL LOCATION - LARGE ARROW SIZE URBAN LOCATION - SMALL ARROW SIZE



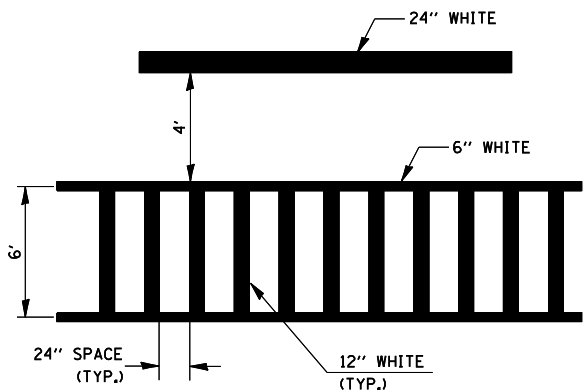
**LEFT ARROW**

REVERSE FOR RIGHT ARROW  
AREA = 15.6 SQ. FT. (1.47 m<sup>2</sup>)  
(WHITE)

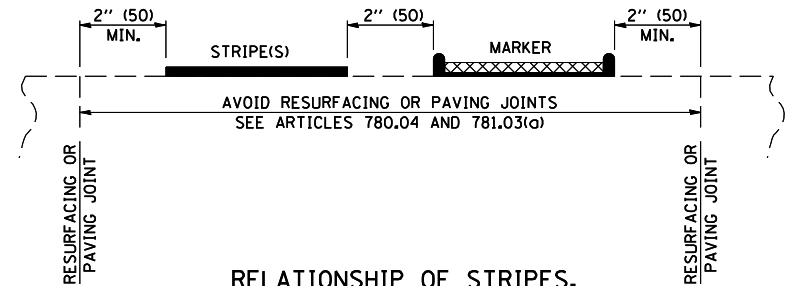


**TYPICAL DOUBLE TURN ARROWS (WHITE)**

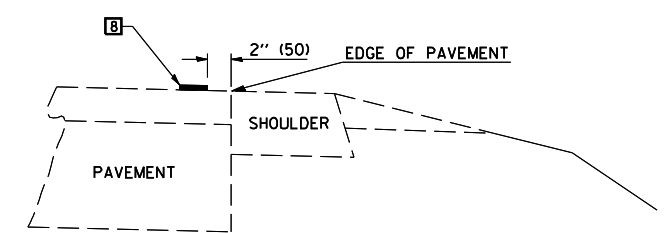
**BLOOMINGTON-NORMAL CITY LIMITS ONLY**



**TYPICAL SPACING FOR CROSSWALKS & STOP BARS**



**RELATIONSHIP OF STRIPES, MARKERS AND JOINTS**



**RELATIONSHIP OF EDGE LINE TO EDGE OF PAVEMENT**  
(SAFETY SHOULDER OR PAVED SURFACE)  
SEE ARTICLE 780.04

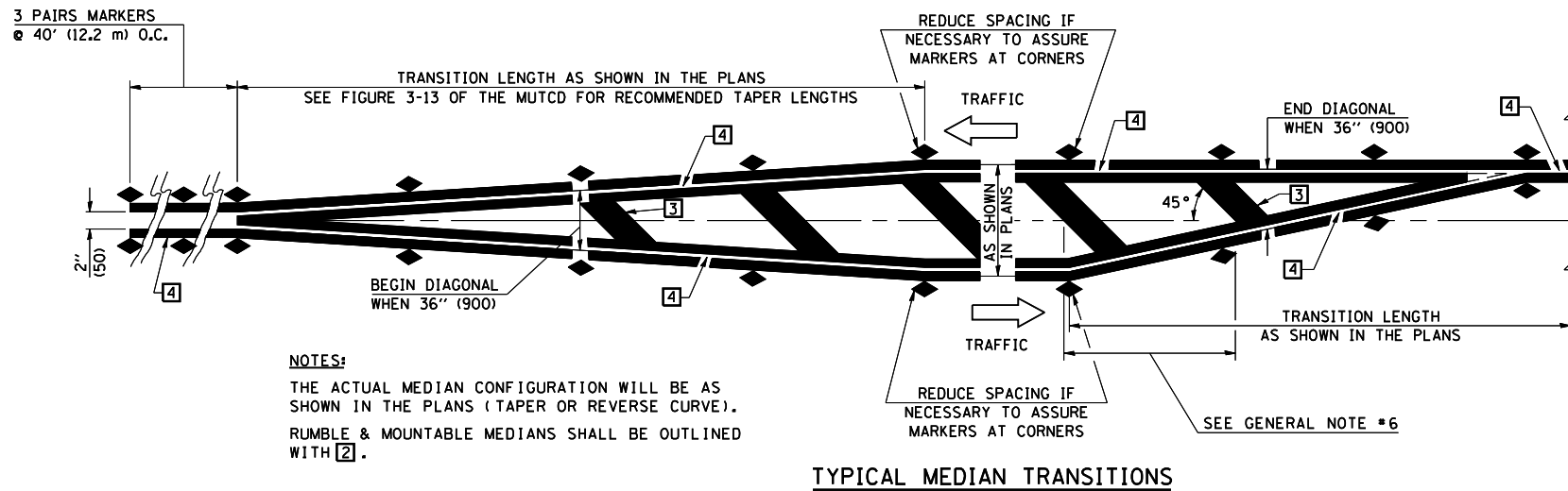
Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DATE	REVISIONS	NAME
11/06	REPLACED DETAIL F-5.25	TJB

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)**  
**DISTRICT 5 DETAIL NO. 7800AAA**

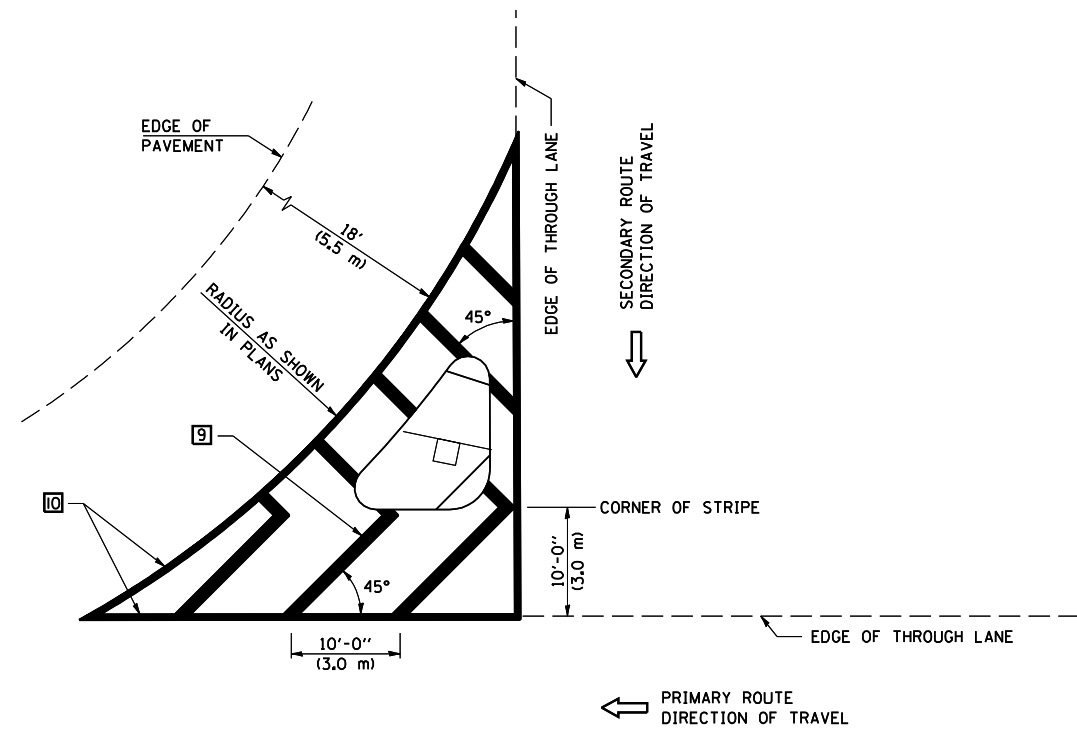
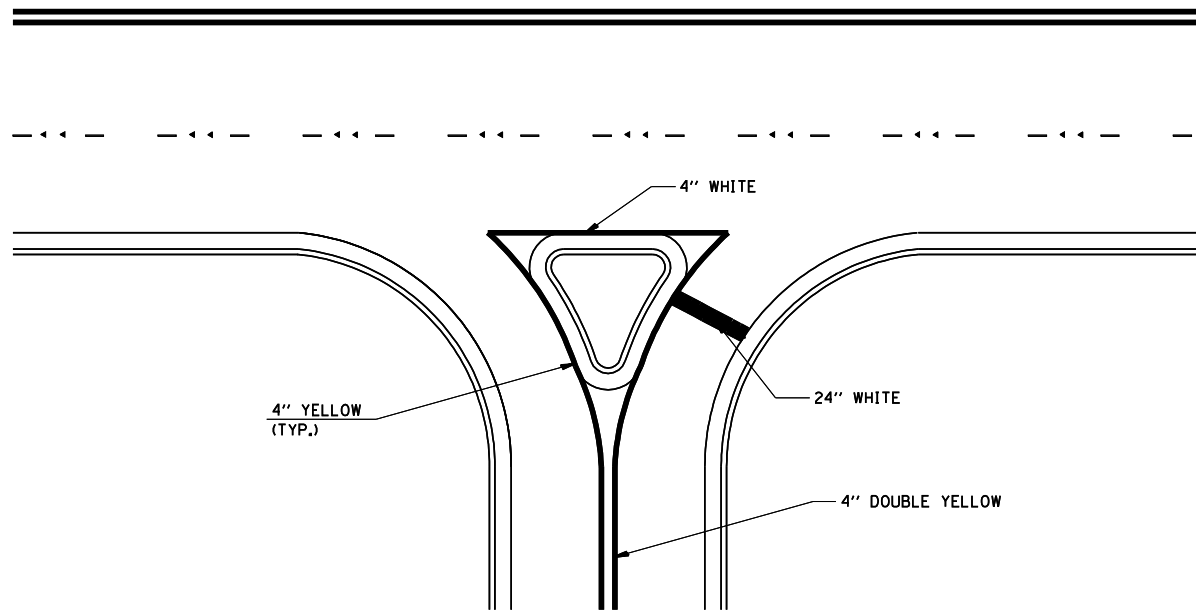
PLOT DATE = 8/13/2007  
 FILE NAME = c:\projects\70518\plans\8.10.07\roadway\plans\detaila.dgn  
 PLOT SCALE = 42.3525 / IN.  
 USER NAME = collierb

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	27



**GENERAL NOTES**

1. WHEN MEDIANS ARE PRESENT, PAVEMENT MARKINGS ARE TO BE PLACED ADJACENT TO MEDIANS.
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. A STRIPING KEY IS AVAILABLE ELSEWHERE AND SHALL BE SHOWN WHERE THE QUANTITIES ARE LISTED.
5. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
6. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING,  
 < 30 MPH USE 15' (< 50 km/h USE 4.5 m)  
 30-45 MPH USE 20' (50-75 km/h USE 6.0 m)  
 > 45 MPH USE 30' (> 75 km/h USE 9.0 m)



Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

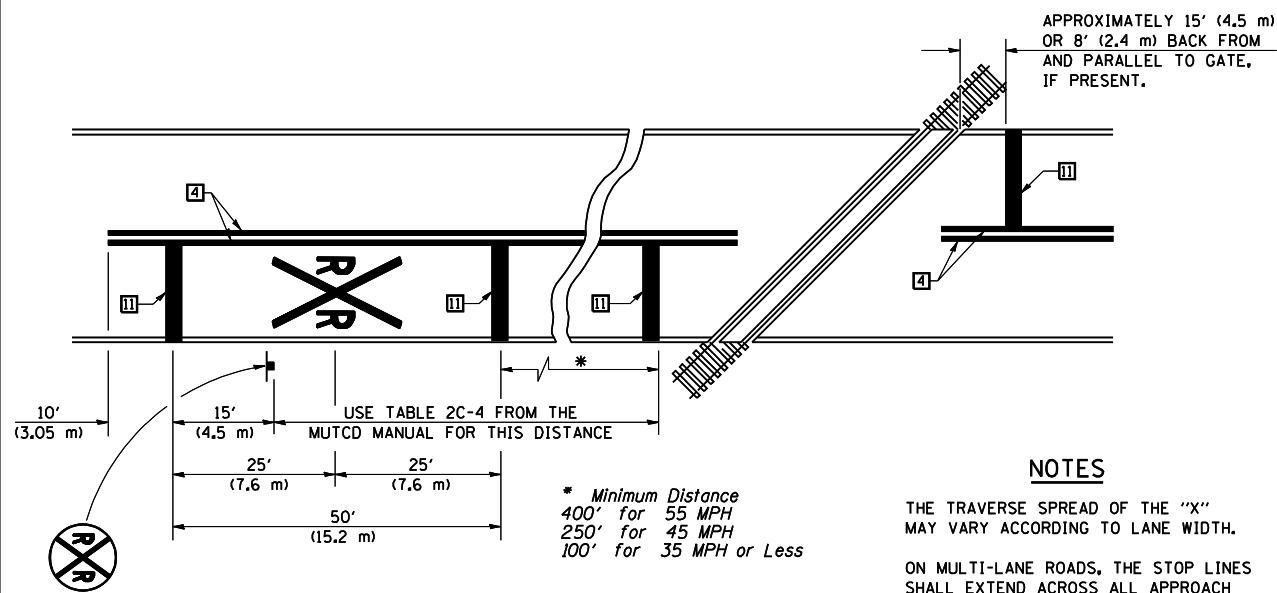
DATE	REVISIONS	NAME	ILLINOIS DEPARTMENT OF TRANSPORTATION
11/06	REPLACED DETAIL F-5.25	TJB	<b>PAVEMENT MARKING AND MARKERS (RURAL &amp; URBAN APPLICATIONS)</b>
			<b>DISTRICT 5 DETAIL NO. 7800AAAA</b>

PLOT DATE = 8/13/2007  
 FILE NAME = c:\projects\6593896\1\8\10\87\roadway\plans\details.dgn  
 PLOT SCALE = 42,352% / IN.  
 USER NAME = collierb

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	MCLEAN	31	28

RAILROAD CROSSING WITH INTERCONNECT ONLY

RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



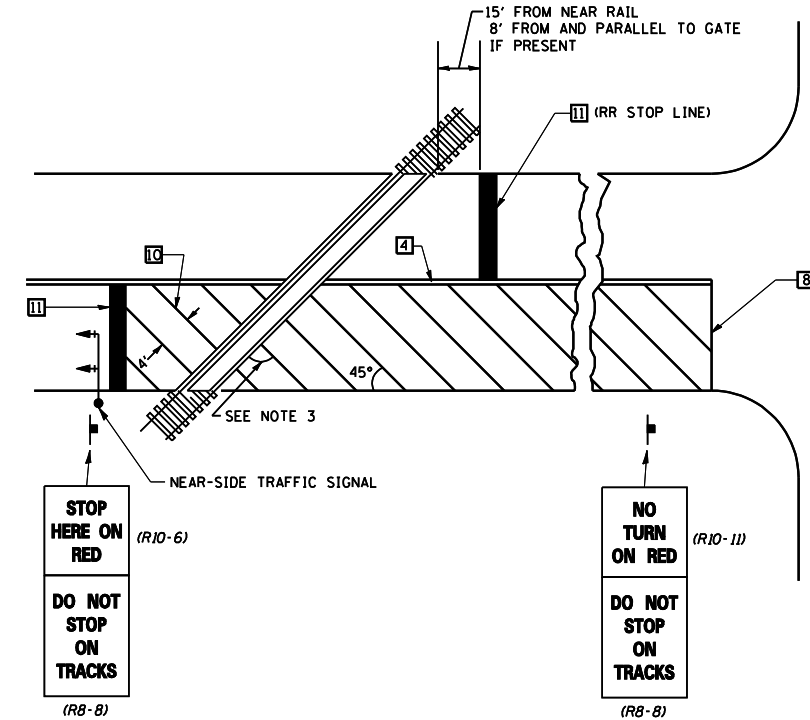
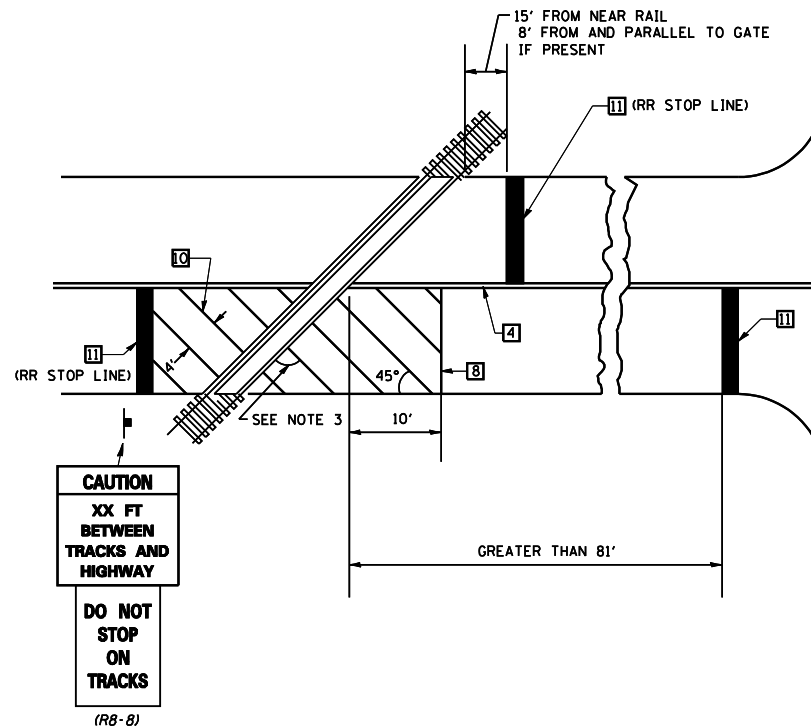
PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING

NOTES

THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.



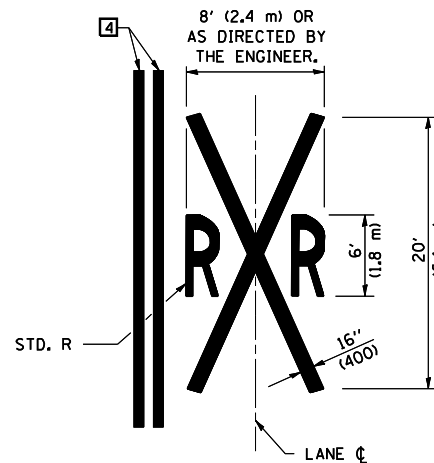
SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR RAILROAD-HIGHWAY GRADE CROSSING

NOTES

SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.

EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.

WHERE THE ANGLE BETWEEN THE DIAGONAL PAVEMENT MARKINGS AND THE TRACK WOULD BE LESS THAN 20°, THE PAVEMENT MARKINGS SHOULD BE PLACED IN THE OPPOSITE DIRECTION FROM THAT SHOWN.



Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DATE	REVISIONS	NAME
11/06	REPLACED DETAIL F-5.25	TJB

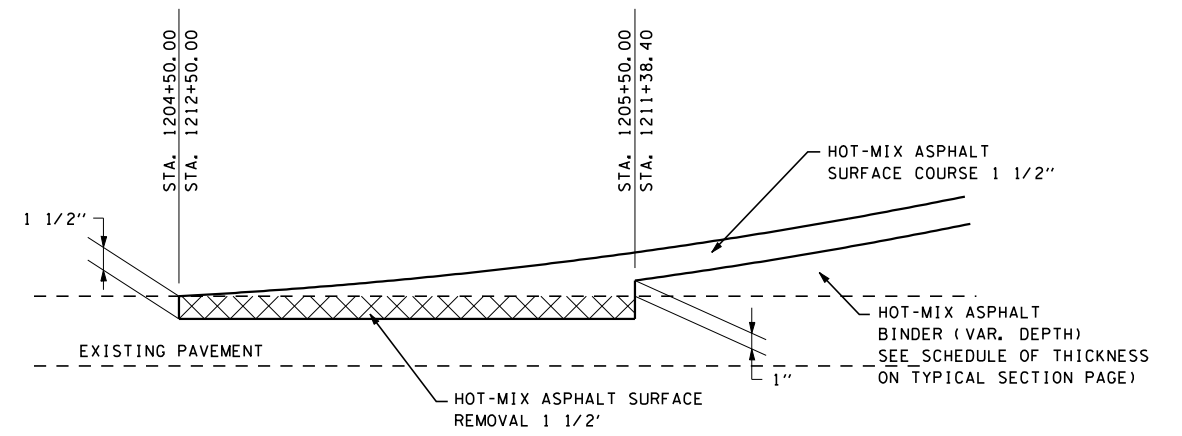
ILLINOIS DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)

DISTRICT 5 DETAIL NO. 7800AAAA

PLOT DATE = 8/13/2007  
FILE NAME = c:\projects\6593896 (v8)\final plans 8.10.07\roadway plans\detaila.dgn  
PLOT SCALE = 42.3525" / IN.  
USER NAME = collierb

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
693	120B	McLEAN	31	29
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



**HOT-MIX ASPHALT 1 1/2" MILLING LIMITS**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

HOT-MIX ASPHALT SURFACE  
REMOVAL. 1 1/2" LIMITS

SCALE: VERT.  
HORIZ.  
DATE

DRAWN BY  
CHECKED BY



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 693	120B	MCLEAN	31	31
STA 1209+00		TO STA 1213+00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BY	DATE
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	AREAS CHECKED

BY	DATE
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	AREAS CHECKED

